Martin ShowDesigner

User manual

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Martin Show Designer Help

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Table of Contents

Foreword 0

Part I Introduction 2

1 MSD Pro and MSD Lite ... 2
2 Software Modules ... 3
3 Hardware Requirements ... 4

Part II MSD Basic knowledge 7

1 Icons ... 7
2 Hotkeys ... 13
3 System Axis ... 16
4 Fast-Switch ... 17

Part III ShowDesigner 19

1 Menus ... 19
2 Layout ... 37
3 Window Management ... 38
4 Display Mode ... 43
5 Settings ... 44
Preferences ... 45
Rendering Default Settings ... 46
Object Snap ... 53
System Untis ... 55
Gamma ... 56
Paths ... 57
DirectX ... 60
Language ... 61
Preferences Options ... 62
6 Camera ... 64
Camera Properties 2D ... 66
Camera Properties 3D ... 67
Camera Save/Delete ... 69
7 Fixtures ... 71
Fixture List ... 72
Importing Fixture in a Scene ... 73
Inserting Fixture in a Scene ... 75
Select and manipulate fixture ... 76
Replacing one or many fixtures in a scene ... 81
Look Through Fixture ... 83
8 Objects ... 84
Object List ... 84
Importing Objects in a Scene ... 86
Inserting Object in a Scene ... 88

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Select and manipulate object ... 89
Changing Object Properties ... 91
Duplicate Object or Fixture ... 92
Aling objects or fixtures ... 95
9 Grouping objects and fixtures ... 96
Group ... 96
Assembly ... 98
Subtractive Grouping ... 101
Intersect Grouping ... 102
10 Fixture Block ... 103
Creating a fixture block ... 104
Inserting a fixture block in a scene ... 105
11 Scene Block ... 106
Creating a scene block ... 106
Inserting a scene block in a scene ... 108
12 Dynamic Objects ... 109
How to use Dynamic Object in a Scene ... 112
13 Materials and Textures ... 115
Material Base ... 119
Material Special ... 122
Material Texture ... 124
Material Bump ... 128
Color Selection ... 130
14 Rendering ... 131
Rendering Creation ... 133
Saving a Rendering ... 135
15 Lux Meter ... 137
16 Cuelist ... 138
17 DMX Control ... 142
18 Layers ... 144
19 Fast-Patch ... 146
20 Printing in ShowDesigner module ... 148
21 Fixtures automatically imported in a scene at startup ... 151
Part IV Modeler 153
1 Menu ... 153
2 Layout ... 169
3 Windows Management ... 169
4 Display Mode ... 174
5 Settings ... 175
Preferences ... 176
Rendering Default Settings ... 177
Object Snap ... 184
System Untis ... 186
Gamma ... 187
Paths ... 188
DirectX ... 191

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Language ... 192
Preferences Options ... 193
6 Primitives ... 195
7 Primitives Properties ... 197
8 Object List ... 200
9 Import DXF and others ... 201
10 Material List ... 204
11 Light Source Properties ... 208

Part V 3D Visualizer 211

1 Introduction ... 211
Layout ... 211
Scene Area ... 212
Tool Bars ... 213
Side Bar ... 214
2 Getting Started ... 215
Loading a Scene ... 215
Creating a Scene ... 216
Adding Objects to the scene contents ... 218
Adding Fixtures to the scene contents ... 220
Placing Objects in the Scene ... 222
Placing Fixtures in the Scene ... 225
Patching and Controling Fixtures ... 228
Manually ... 229
DMX ... 231
3 Cameras ... 232
Predefined Cameras ... 233
Camera Operations ... 234
Saving and Loading cameras ... 235
4 Media Feeds ... 238
Creating Media Feeds ... 238
Using Media Feeds ... 240
5 Creating a Presentation ... 243
Show Timeline ... 244
DMX Track ... 247
Camera Animation Track ... 250
Recording a Video ... 253
6 Reference ... 256
Menu ... 256
Toolbar buttons ... 269
Sidebar ... 271
Environment ... 271
Camera ... 275
Orientation ... 276
Info ... 277
Parameters ... 278
Fan Focus ... 279
Scene Library Contents ... 280
Scene Contents ... 280

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Contents 281
Layers 281
Media 281
Show 281
Preference 281
Report View 282

Part VI Paperwork 285

1 Illuminance Map 285

Part VII Fast Net Render 291

1 What is MSD Fast Net-Render 291
2 Fast Net-Render Client 291
3 Fast Net-Render Server 299

Part VIII MSD Tools and Utilites 302

1 MSD Scene Compactor 302

Part IX References 304

1 Formulas 304
2 Links 305

Index 306

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Introduction

Part I

1 Introduction

Welcome to Martin ShowDesigner!

Martin ShowDesigner is a unique and user-friendly lighting and set-design software package useful in developing realistic 3D lighting simulations in both architectural and entertainment fields. Useful as a high quality production or sales presentation tool, ShowDesigner allows you to create realistic set and lighting design renderings using lighting, reflection, transparency, shadow and smoke.

In the architectural field, ShowDesigner can be used to realistically demonstrate the enhancing effects of lighting on buildings, bridges, monuments or any structure.

Imagine creating realistic renderings of a building, subtly changing lighting, shadow and reflection in order to obtain the best solution based on different fixture positions, spread angles and setbacks.

Conveniently create lighting designs from your own PC or laptop. Forget time-consuming scale modules and detailed drawings. Make positional and effect alterations quickly and easily, then view them on screen.

ShowDesigner gives you the ability to present to your customer a variety of looks, multiple realistic renderings that are appealing to view and easy to understand. ShowDesigner calculates the luminous intensity on any surface, taking into account the color, refraction, absorption, reflectance and transparency. Ambient light can be adjusted to any level when calculating dawn, day, dusk or night environments. The renderings can be saved in BMP or JPEG format and displayed via any picture viewer.

ShowDesigner eliminates the time consuming task of producing scale models and detailed drawings, letting you spend less time "on location."

ShowDesigner features a very realistic Offline programming module, enabling the lighting programmer to connect his console to the ShowDesigner and start programming using virtual fixtures in the Offline.

Rental companies can pre-program shows in realistic real time 3D visualization thereby saving time and money on the production budget.
With the ShowDesigner you can give your customer the confidence that they have picked the best solution. And give yourself the confidence that you have presented the highest quality visualization simulation available, while at the same time saving both time and money.

1.1 MSD Pro and MSD Lite

MSD Pro and MSD Lite

This document is written for use with the full Pro version of the software.
If you have another version you will find that some of the functions differ slightly, or are

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not available.
If you want to upgrade to a Pro version, please contact your local Martin supplier for more information.

1.2 Software Modules

ShowDesigner

The main program works in a full 3D environment. Here, different objects and fixtures combine to form a stage, building or whatever environment is desired.
It is possible to work in real time wire frame or solid mode. Set and lighting design can be simulated easily and extremely realistically due to the MSD's advanced rendering capabilities.
The MSD calculates the luminous intensity of any surface and takes into account the surface of any object in terms of color, refraction, absorption, reflectance and transparency.
The ambient light level can be adjusted at any level. Renderings can be saved in bitmap or JPEG format and displayed via any standard Windows picture viewer.

3D Visualizer

A very useful tool for pre-programming of any kind of show. Any DMX controller can be connected via a DMX interface for easy offline programming.
An interface for laptop users is also available. In 3D Visualiser, very precise pre-programming is possible.
It can display most fixture functions such as movement (even the head of a moving head will move accordingly), intensity, fixed colors, CMY color mixing, gobos, framing, iris and more.
Camera positions and angles can be easily changed on the fly, making it fast to study a light show from different viewing positions.
The show can be recorded in real time and saved as a video clip in various formats such as AVI and MOV. It is then possible to view a pre-programmed show using any standard Windows video viewer

Model

A handy 3D CAD program for creating or modifying objects. Objects can be built from scratch using different primitives like cubes, pyramids, toroids, etc., or they can be a modification of an already existing object from the library. The object library contains images of chairs, stage elements, people, trussing of various manufacturers, etc. It is

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also possible to import 3D DXF files.

Paper
Modern productions require a plethora of paperwork – the Martin Show Designer makes this easy to generate using the Paper Module.
This tool can be used to create plans with views in any scale and from any angle.
Add in a key, fixture lists, information blocks and even pictures. It also creates easy to use and edit fixture and patching lists.

Fast Net-Render Client & Server *(Pro version Only)*
The Show Designer's ability to create a high quality rendering of your show is a very powerful tool.
However it does take a considerable amount of computer power to achieve and can take quite some time too.
The Fast Net Render system is there to speed up this process. It utilizes the power of other computers, connected to your own, via a network to speed up the rendering process.

Tools

Scene Compactor
This utility can be used to clean up a scene from unused objects, fixture, cues, and material.

1.3 Hardware Requirements

Computer
For the most satisfying user experience you should use the best machine that you can, with a fast processor and plenty of memory.
At least you need a graphics card with hardware support for DirectX 9 with hardware support for Transform & Lighting (T&L), and vertex and pixel shaders version 2 or higher. (version 3 recommended for support of all effects).

Operating Systems
This fully integrated package runs on Windows 7 or higher.

Hardware protection
The software is protected with a hardware key, so you will need a free port on your computer. MSD uses a WIBU CodeMeter key, a USB port edition.
(This can also be a Martin One-Key, which basically is a WIBU CodeMeter).

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In some cases, the hardware key is build in the Martin Controller itself, and accessible over the network.

The WIBU key looks something like this:

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MSD Basic knowledge

Part II

2 MSD Basic knowledge

Icons

Hotkeys

Display Mode

System Axis

Window Management

Fast Switch

2.1 Icons

Common icons			
Icon	**Item**	**Hotkeys**	**Description**
	New	CTRL+N	Opens a new Scene
	Open	CTRL+O	Allows you to open saved scenes
	Save	CTRL+S	Saves current scene
	Delete	DEL	Deletes the currently selected object or fixture
	Turn operation off	Spacebar	Turn off the current operation (move, scale, Rotate, etc…)
	Undo	CTRL+Z	Undoes your previous action
	Redo	CTRL+Y	Redo you're your previous action after using undo
	Print	CTRL+P	Prints the currently selected window
	About MSD		Opens an information window
	Show/Hide beam		Hides all beams from fixtures
	Light Mode	L	Prevents you selecting any object other than fixtures
	Fixture View		Gives you a view from the fixtures point of view
	Edit Fixture Layers	CTRL+F	Allows you to choose which layers of fixtures are visible
	Edit object Layers	CTRL+L	Allows you to choose which layers of objects are visible
	Illuminance Meter	I	Allows you measure the brightness at mouse point

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	Fixture Insert		Inserts a Fixture
	Move Beam	B	Allows control of fixtures beams with the mouse
	Focus Beam	F	As above, but moves all beams to the same position
	Fast Patch	P	Allows you to quickly re-patch the addresses and ID numbers for all your fixtures.
	Move	M	Move an object or fixture
	Move Horz.		Move an object or fixture left or right.
	Move Vert..		Move an object or fixture up or down
	Scale	S	Resize an object using the mouse
	Scale Horz.		Resize only up and down
	Scale Vert.		Resize only left and right
	Scale XYZ	ALT+S	Resize an object in 3D
	Rotate Horz. Axis		Rotate an object or fixture in the horizontal axis
	Rotate Vert. Axis		Rotate an object or fixture in the vertical axis
	Rotate Depth Axis	R	Rotate an object or fixture in the depth axis
	Rotate Two Axis		Rotate an object or fixture in the horizontal and vertical axis
	World Axis		Move, Rotate or Scale base on World Axis
	Object Axis		Move, Rotate or Scale base on Object Axis
	Group	G	Group objects together
	Group Axis	ALT+G	Group objects with the picked object axis
	Assembly	CTRL+G	Group fixtures and objects together to create a multiple sources fixture. (Example Bar of 6 Pars)
	Subtract		Groups and subtracts the selected object (Only visible at render time)
	Intersect		Groups and keeps only the intersection between the objects (Only visible at render time)
	Attach	Shift+G	Attach Dynamic object Hook to selected object
	Un-group	U	Separates grouped objects into the original objects
	Zoom	Z	Zoom the camera in and out on current view

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	Camera Move To/ From	X	Move the camera in and out of current view
	Camera Inspect	C	Move the camera around on current view
	Camera Move	V	Move the camera up, down, left or right.
	Camera Swivel	ALT+V	Point the camera in a different direction
	Camera undo	ALT-Z	Undo your last camera move.
	Camera redo	ALT-Y	Redo your last camera move, after using undo
	Select Camera		Select a saved camera position
	Full View		Resets camera position and zoom so you can see your whole scene, on current window
	Full view all		Resets camera position and zoom so you can see your whole scene, on all windows
	Insert Object		Insert an Object
	Duplicate	ALT+D	Insert a duplicate of the current object
	Duplicate Multiple		Insert multiple duplicates of current object
	Wire frame		Puts the current window into a wire frame view
	Wire frame (Lit)		As above, but with illumination levels as well
	Solid		Puts the current view into a solid view
	Trace SHADOW		Makes a 3D rendering of the current view, (only in 3D windows)
	Fast-Switch to ShowDesigner		When click the current scene will close from the current module and re-reopened in the ShowDesigner module
	Fast-Switch to Modeller		When click the current scene will close from the current module and re-reopened in the Modeler module (if an object was selected it will be open)
	Fast-Switch to 3D Visualizer		When click the current scene will close from the current module and re-reopened in the 3D Visualizer module
	Fast-Switch to Paper		When click the current scene will close from the current module and re-reopened in the Paper module

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Icons specific to the Modeler module			
Icon	**Item**	**Hotkeys**	**Description**
	Cube		Insert a Cube
	Triangle 4		Insert a Triangle 4 Facets
	Pyramid 4		Insert a Pyramid 4 Facets
	Cylinder		Insert a Cylinder
	Half Cylinder		Insert a Half Cylinder
	Quarter Cylinder		Insert a Quarter Cylinder
	Cone		Insert a Cone
	Half Cone		Insert a Half Cone
	Quarter Cone		Insert a Quarter Cone
	Sphere		Insert a Sphere
	Half Sphere		Insert a Half Sphere
	Quarter Sphere		Insert a Quarter Sphere
	Toroid		Insert a Toroid
	Half Toroid		Insert a Half Toroid
	Quarter Toroid		Insert a Quarter Toroid
	Triangle 3		Insert a Triangle 3 Facets
	Pyramid 3		Insert a Pyramid 3 Facets
	Rectangle		Insert a Rectangle
	Triangle		Insert a Triangle
	Corner		Insert a Corner
	Circle		Insert a Circle
	Half Circle		Insert a Half Circle
	Quarter Circle		Insert a Quarter Circle

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Icons specific to the 3D Visualizer module			
Icon	**Item**	**Hotkeys**	**Description**
	Front View	CTRL+1	
	Back View	CTRL+2	
	Left View	CTRL+3	
	Right View	CTRL+4	
	Top View	CTRL+5	
	Bottom View	CTRL+6	
	3D View	CTRL+0	
	Isometric SW		Isometric view (from South-West)
	Isometric SE		Isometric view (from South-East)
	Isometric NE		Isometric view (from North-East)
	Isometric NW		Isometric view (from North-West)

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Icons specific to the Paper module			
Icon	**Item**	**Hotkeys**	**Description**
	Zoom 1:1		Zoom to 1:1 ratio
	Zoom Full View		Zoom to full view so the whole document is visible
	Zoom In		Zoom inward on the sheet
	Zoom Out		Zoom outward on the sheet
	Bring To Front	Home	Bring selected object to the front
	Move Forward	Page Up	Bring selected object forward
	Move Backward	Page Down	Bring selected object backward
	Send to back	End	Send selected object to the back
	Data grid		Display a grid with all information needed…
	Re-number Mode		In this mode fixture ID can be renumbered
	Patch Mode		In this mode fixture address can be change
	Overlapping address		Mark fixture(s) that have overlapping address range

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2.2 Hotkeys

Modeller and Show Designer Hotkeys

Item	Hotkeys
Objects / Fixtures	
Move	M
Rotate	R
Scale	S
Scale 3D	ALT+S
Camera	
Camera Zoom	Z
Camera In/Out	X
Camera Inspect	C
Camera Pan View	V
Camera Swivel	ATL+V
Camera Undo	ALT+Z
Camera Redo	ALT+Y
Edit	
Select All	CTRL+A
De-Select All	SHIFT+ESC
Edit Fixture Layers	Ctrl+F (not in Modeller)
Edit Object Layers	Ctrl+L (not in Modeller)
Properties	ALT+Enter
Delete	DEL
Undo	CTRL+Z
Redo	CTRL+Y
Other	
Fast Patch	P
Print	
Save	CTRL+S
Jump from window to Window	CTRL+page
Light Mode (toggle)	L
Move beam	B
Focus beam	F
Light Intensity meter	I
Replace Fixture	CTRL+H

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Combine	
Group	G
Group Axis	ALT+G
Group Assembly	CTRL+G
Attach	Shift+G
UnGroup	U
Offline Visualizer Shortcuts	
File New	Ctrl+N
File Open	Ctrl+O
File Save	Ctrl+S
Edit Fixture Layers	Ctrl+F
Edit Object Layers	Ctrl+L
3D Camera	Ctrl+0
Front Camera	Ctrl+1
Back Camera	Ctrl+2
Left Camera	Ctrl+3
Right Camera	Ctrl+4
Top Camera	Ctrl+5
Bottom Camera	Ctrl+6
View complete scene	Ctrl+7
Camera Undo	Alt+Z
Camera Redo	Alt+Y
Picked Fixture Properties	Alt+Enter
Camera Properties	Alt+Shift+Enter
Normal Screen Mode	F2
Full Screen Mode (Toolbar's visible)	F3
Max Screen Mode (Only scene visible)	F4
Start current Fast Focus Operation	F
Camera Zoom	Z
Camera In/Out	X
Camera Inspect	C ((Rotate around picked fixture only when window is in 3D view)
Camera Pan	V
Camera Swivel (rotate camera)	Alt+V (only when window is in 3D view)
Display Timing information	Ctrl+T
Display DirectX memory information	Ctrl+M
Mouse Functions	

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LMB = Left Mouse Button, RMB = Right Mouse Button, MMB = Middle Mouse Button	
LMB	Pick objects
LMB + CTRL	Pick objects and keep other selections
LMB + Mouse Drag	Clear selection, Clear Pick, Select all objects inside rubber band box
LMB + SHIFT + Mouse Drag	Clear selection, Clear Pick, Select all objects inside and touching rubber band box
LMB + ALT + Mouse Drag	Clear selection Clear Pick, Select all touching the dragged line
LMB + CTRL + Mouse Drag	Select all objects inside rubber band box
LMB + CTRL + SHIFT + Mouse Drag	Select all objects inside and touching rubber band box
LMB + CTRL + ALT + Mouse Drag	Select all touching the dragged line
RMB + Mouse Drag	Zoom Rectangle
MMB + Mouse Drag	Camera PAN
Mouse wheel	Zoom on Cursor position
MMB Double Click	Full View for current view
Nudge Functions	
Move	
Arrows key	Starts with a move of 1 pixel. Holding down the key will keep moving, slowly accelerating.
SHIFT+Arrows key	Starts with a move of 10 pixels. Holding down the key will keep moving, slowly accelerating.
Scale	
Arrows key	Starts with a move of 1 pixel. Holding down the key will keep moving, slowly accelerating.
SHIFT+Arrows key	Starts with a move of 10 pixels. Holding down the key will keep moving, slowly accelerating.
Rotate	
Arrows key	Starts with a rotation of 1/10th of a degree. Holding down the key will keep rotating, slowly accelerating.
SHIFT+Arrows key	Starts with a rotation of 1 degree. Holding down the key will keep rotating, slowly accelerating.
CTRL+Arrows key	Starts with a rotation of 45 degrees. Holding down the key will keep rotating in steps of 45 degrees.

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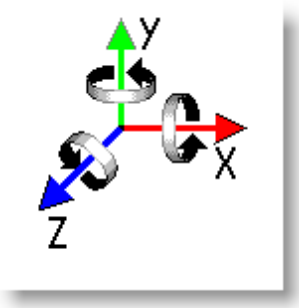
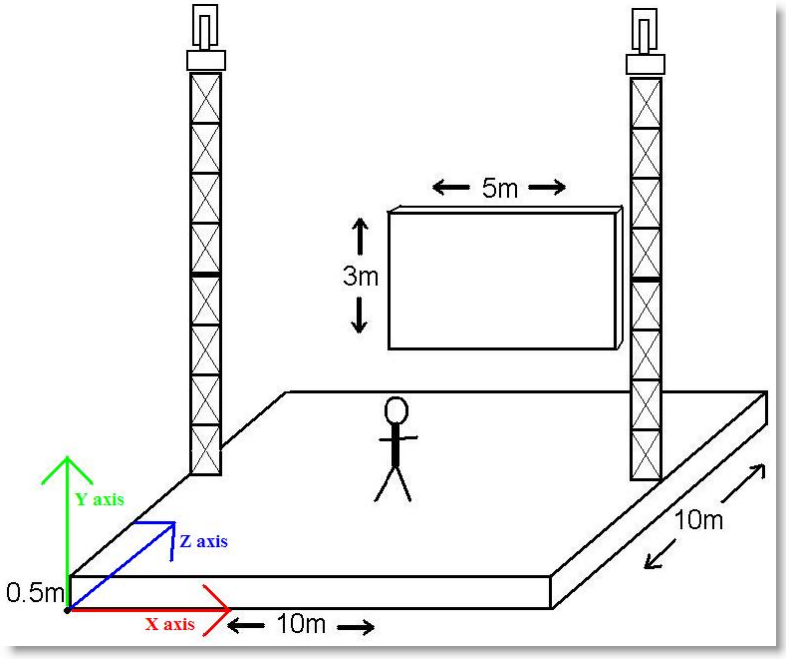
2.3 System Axis

Because MSD is a three-dimensional (3D) graphical program, a system with three axes has to be determined: the X-axis, Y-axis and Z-axis.
These axes represent the spatial horizontal, vertical and depth axis respectively.
In the program, the **X-axis** is red, the **Y-axis** is green and the **Z-axis** is blue.



X is from Left to Right
Y is from Up Down
Z is from Back to Front\



NOTE: If (in case of a window) the horizontal, vertical and depth axes are mentioned, these axes concern the window axes.
These window axes are not necessarily the same as the spatial X-, Y- and Z-axis.

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Note: Most CAD systems, use a right-handed coordinate system. However in these environments the Z axis defines height, not depth. This stems back to 2D CAD systems where X, Y is the drawing plane. When extended to 3D, Z became the height above the drawing plane.

In 3D World we tend to look at things like a human normally do ie.: When referring to a three-dimensional plane, a z-axis refers to the depth of a three-dimensional object. When referring to the other axis planes, x-axis refers to the horizontal width and y-axis refers to the vertical height of the object.

2.4 Fast-Switch

Often it is necessary to open a scene already open in one module into another module In MSD the same file cannot be open in multiple modules at the same time.
Example you are working on a scene and an object from that scene need to be modified in modeler or a scene in 3D Visualizer need to be open in ShowDesigner for modification.

The Fast-Switch allow this operation to be done ...well fast...!

Available in the toolbar as well as in the File menu are three items

Fast-Switch to ShowDesigner
When click the current scene will close from the current module and re-reopened in the ShowDesigner module.

Fast-Switch to Modeller
When click the current scene will close from the current module and re-reopened in the Modeler module. (if an object was selected it will be open)

Fast-Switch to 3D Visualizer
When click the current scene will close from the current module and re-reopened in the 3D Visualizer module.

Fast-Switch to Paper
When click the current scene will close from the current module and re-reopened in the Paper module.

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Part III

3 ShowDesigner

Menu

Layout

Camera

Fixtures

Objects

Grouping objects and fixtures

Fixture Block

Scene Block

Dynamic Objects

Material and Textures

Rendering

Layers

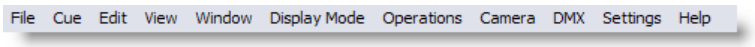
Cuelist

Dmx Control

Printing

Fast Patch

3.1 Menus



File
Cue
Edit
View
Window
Display Mode
Operation
Camera

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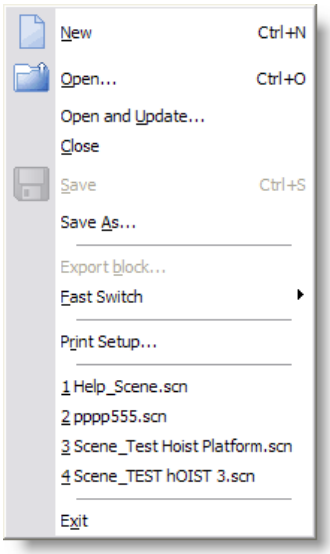
DMX
Settings
Help

File Menu



You will use the entries in this menu to open, close and save files, setup the printer, get information about the program and exit the program.

File | New

Shortcut : **Ctrl+N**
This menu is used to create a new scene. The system will ask to save any changes to the current scene if a scene is already open. The new scene will read the file 'Default. spt' in the spot directory for all the default fixtures.

File | Open...

Shortcut : **Ctrl+O**

This menu is used to open an existing scene. You will be presented with the standard file dialog in the scenes directory.

After you have selected a scene, the current scene will be closed and the new scene will be opened.

If the current scene was changed since the last save you will get the opportunity the save these changes or cancel the open command.

File | Open and Update...

Like the above Open command except that all fixture definitions are fetch into the Spots folder and replace with the new ones.

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Example, new fixture definition include new 2D symbols for printing. so to update scene made with previous fixture definition, use the Open and Update

File | Close
Use this menu item to close the current scene. If the current scene has any unsaved changes you will get the opportunity to save these before the scene is closed.

File | Save

Shortcut : **Ctrl+S**

Save is used to save the current scene. If the current scene was never saved before, you must enter a name for the new scene.

File | Save As...
This menu item is used to give the scene a new name. If you use this option you must select a new name for the scene. The scene is then saved using this name. Any subsequent saves of the scene will be done using this name.

File | Export Block...
Use Export Block to save a portion of a scene as a Scene Block or Fixture Block

File | Fast-Switch
Use Fast-Switch to open the current scene into another module. See Fast-Switch for more details

File | Print Setup...
This option allows you to setup the current printer.

File | Recent files
Here you will find the 4 last saved/opened files. By selecting one of these files you can open the selected scene.

File | Exit
Shortcut : **Alt+F4**
This option will shut down the program. If there is a scene open and if this scene has any unsaved changes you will be asked to save these changes or cancel the operation.

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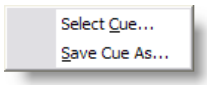
Cue menu



Cue | Select Cue...

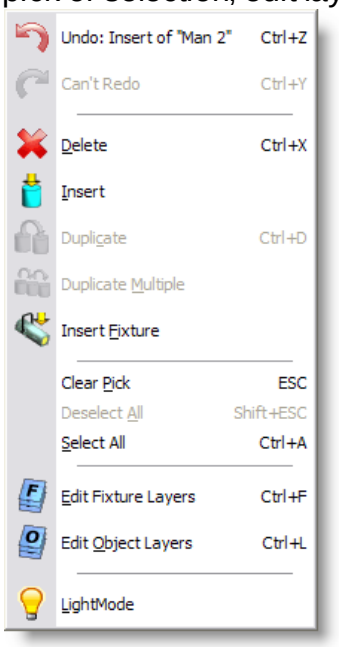
This option shows the Cue List.

Cue | Save Cue As...

See Cue List for more details

Edit menu

You will use the entries in this menu to delete, copy and insert objects and fixtures, clear pick or selection, edit layers and switch between 'Light Mode' and 'Normal Mode'.



Edit | Undo

Shortcut : **Ctrl+Z**

This option will undo the last action (if there is one). The text after 'Undo' indicates the nature of the last action.

Edit | Redo

Shortcut : **Ctrl+Y**

This option will redo the last 'undone' action (if there is one). The text after 'Redo' indicates the nature of the last 'undone' action.

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Edit | Delete

Shortcut : **Ctrl+X**

This option will delete the picked object.

Edit | Duplicate

Shortcut : **Ctrl+D**

This option will copy the picked object. When you click with your left mouse button inside a window, the copy will be inserted into the scene.

If you keep the mouse button down, you can directly move the inserted copy around until you release the mouse button.

Edit | Duplicate Multiple

This option will make multiple copies of the picked object. When you click with your left mouse button inside a window, a dialog will appear.
See Duplicate Object or Fixture

Edit | Insert

This option allows you to insert an object from the object list into the scene. See Object List for more information about objects. When you click in a window after selecting this option a list of available objects will appear. The desired object will be inserted after clicking on it in the list.

Edit | Insert Fixture

This option allows you to insert a fixture from the fixture list into the scene. See Fixture List for more information about fixtures. When you click in a window after selecting this option a list of available fixture manufacturers will appear. When you move your mouse over the desired manufacturer, all available fixtures from that manufacturer will appear. The desired fixture will be inserted after clicking on it in the list.

Edit | Clear Pick

Shortcut : **ESC**

This option clears the current pick. If you had something picked, it will be unpicked.

Edit | Deselect All

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Shortcut : **Shift+ESC**
This option clears the selection. If you have one or more objects selected, they will be de-selected.

Edit | Edit Fixture Layers

Shortcut : **Ctrl+F**
When you select this option, a dialog will appear. See Layers for more details

Edit | Edit Object Layers

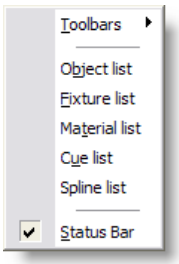
Shortcut : **Ctrl+L**
When you select this option, a dialog will appear. See Layers for more details

In this dialog, you can edit the object layers. You can edit the name of a layer by clicking in the left box (layer line will become active), and then clicking in it again. You can then edit the existing name or enter a new name. You can make one of the layers 'Active'. This means that any new objects will be placed on that layer. In the 'Visible' column, you can select which layers are visible or hidden. The 'Active' layer must be visible, because otherwise, you would not see objects you add to the scene.

Edit | LightMode

This option activates and deactivates the LightMode. When you are working in LightMode, you can only pick fixtures. All other objects are ignored when you try to pick something.

View menu



You can use the entries in this menu to view or hide the toolbars holding the buttons, the different lists and the status bar at the bottom of the main window. If an item is visible a check mark will be displayed in front of the menu item.

View | Toolbars

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This menu is used to show or hide the toolbars. For an overview of all the buttons in the toolbars you can look at the Icon topic.

View | Object list...
This option shows the Object List window. In this window you can delete, rename and import objects. In a new scene this list will be initially empty.

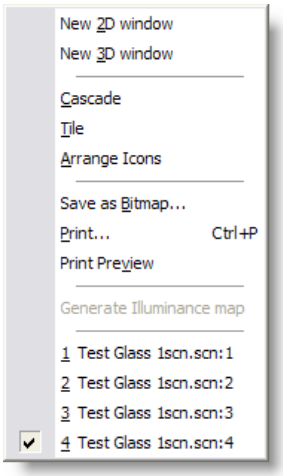
View | Fixture list...
This option shows the Fixture List window. In this window you can delete, rename and import fixtures.
In a new scene this list will contain all fixture reads from the 'Default.spt' file in the spot directory. See this Topic to change this behavior.

View | Material list...
This option shows the Material List window. In this window you can edit, copy, import, delete and create new materials. In a new scene this list will be initially empty.

View | Cue list...
This option shows the Cue List window. In this window you can edit, delete and create new cues. In a new scene this list will be initially empty.

View | Status Bar
This menu is used to show or hide the status bar.

Window menu



You will use the entries in this menu to open or arrange windows and to save or print windows.

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Window | New 2D window
This option opens a new 2D window.

Window | New 3D window
This option opens a new 3D window.

Window | Cascade
This option will arrange all open windows to be all the same size, stacked one on top of another.

Window | Tile
This option will arrange all open windows to be tiled side by side, so all windows will be totally visible.

Window | Arrange Icons
This option will arrange all icons at the bottom of the main window.

Window | Save as Bitmap...
This option allows you to save a window as a Windows bitmap (BMP) or a jpeg image (JPG).

Window | Print...

Shortcut : **Ctrl+P**
This option allows you to print a window. The print will always be in wireframe mode.
See Printing in ShowDesigner Module for more details

Window | Print Preview
This option allows you to preview how a window will be printed.
See Printing in ShowDesigner Module for more details

Window | (Opened windows)
Here you will see how many windows you have open and which is active. You can activate a specific window by choosing its menu item.

Display Mode menu

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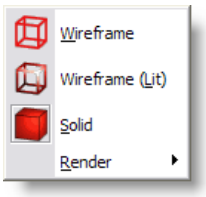
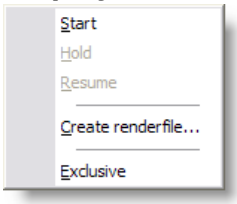


This menu allows you to select the display mode of a window. It gives you a range of representations of a scene.
See Display Mode for more details

Display Mode | Render

Display Mode, Render menu



This menu will only be available in a 3D window. It allows you to realistic render your scene, taking into account lighting, reflection, shadows, smoke etc.

See Rendering for more details

Display Mode | Render | Start
The start option will start the rendering of the scene.

Display Mode | Render | Hold
The Hold option will temporarily stop rendering the window. This might be useful if you are rendering a complex scene. By setting the rendering on hold, you get more time to do other things (in this application or another). This option is only available if you are currently rendering in the window.

Display Mode | Render | Resume
The Resume option will resume rendering a window, which was previously stopped by using the Hold option. This option is only available if the window is currently in a 'hold rendering' mode.

Display Mode | Render | Exclusive
The Exclusive option is a special case of the Start option. The exclusive option will also start rendering a window, but if you choose this option, the ShowDesigner application

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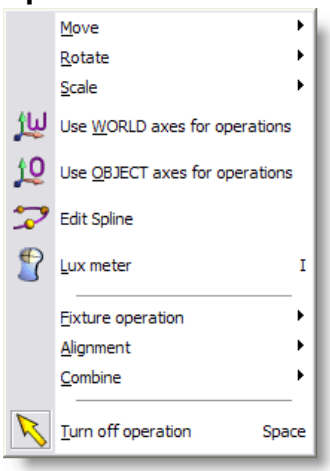
will turn its full attention to the rendering process. This means that nothing else can be done with the ShowDesigner until the rendering process is completed. It can not be stopped! So be very careful to use this option. The only advantage of this way of rendering is that it is faster.

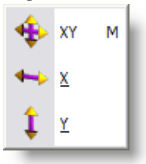
Display Mode | Render | Create Render file
Use this to create a render for the Fast Net-Render

Operation menu



This menu allows you to start an operation on one or more objects and/or fixtures.

Operation | Move menu



The Move operations allow you to interactively manipulate the position horizontally and/ or vertically by moving the mouse.

Operation | Move | XY

Shortcut : **M**
This option allows you to move an object or fixture both horizontally and vertically.

Operation | Move | X

This option allows you to move an object or fixture only horizontally.

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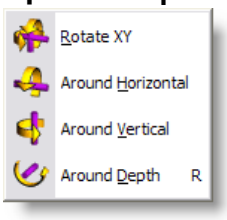
Operation | Move | Y

This option allows you to move an object or fixture only vertically.

Operation | Rotate



The Rotate operations allow you to interactively manipulate the orientation of an object or fixture.

Operation | Rotate XY

Shortcut : **R**

This option allows you to rotate an object or fixture around both the horizontal and vertical axis.

Operation | Around Horizontal

This option allows you to rotate an object or fixture around the horizontal axis.

Operation | Around Vertical

This option allows you to rotate an object or fixture around the vertical axis.

Operation | Around Depth

This option allows you to rotate an object or fixture around the depth axis.

Operation | Scale

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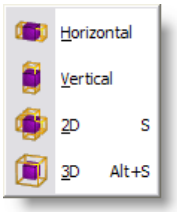

The Scale operations allow you to interactively manipulate the size of an object.

Operation | Scale | Horizontal

Shortcut : **S**
This option allows you to scale an object horizontally.

Operation | Scale | Vertical

This option allows you to scale an object or vertically.

Operation | Scale | 2D

This option allows you to scale an object horizontally and vertically.

Operation | Scale | 3D

This option allows you to scale an object uniformly by scaling the whole object by the same amount.

Operation | Lux meter

Shortcut: **I**
This option activates and deactivates the Lux meter.
See Lux Meter for more details...

Operation | Fixture Operation |

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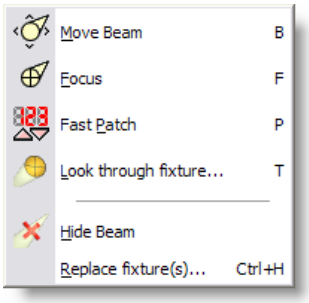

The Fixture operations allow you to manipulate one or more fixtures.

Operation | Fixture Operation | Move Beam

This option allows you to move the focus point of one or more fixtures, relative to its or their position(s).

Operation | Fixture Operation | Focus Beam

Shortcut: **F**
This option allows you to focus one or more fixtures on the point you click, and then drag the focus.

Operation | Fixture Operation | Look through fixture...

This function allow you to see as if you were inside the fixture looking out by the lens.
See Look Through Fixture topic for more details

Operation | Fixture Operation | Fast patch

Shortcut: **P**
This option allows you to patch fixtures using the mouse
See Fast-Patch for more details

Operation | Fixture Operation | Beam Hidden

This option allows you to hide/show the beam of the picked fixture.
See Preferences Options for more details on this

Operation | Fixture Operation | Replace Fixture...
Shortcut: **CTRL+H**

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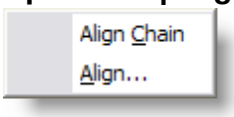
This option allows you to replace a fixture by another fixture. The fixture will have the same position, patch address and focus point. Other settings will be read back from DMX.
See Replace Fixture for more details

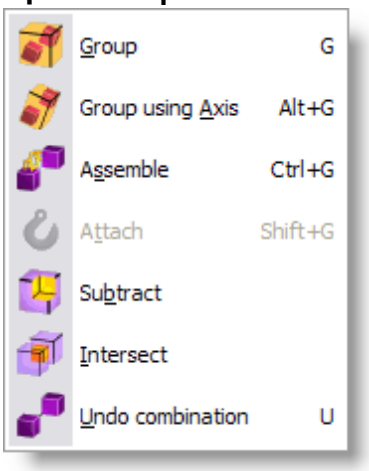
Operation | Alignment menu



Operation | Alignment | Align Chain
This option allows you to align two or more selected objects in a chain like way.
See Align for more details

Operation | Alignment | Align...
This option allows you to align one or more selected object(s) to the active (picked) object. When you select this option, a dialog will appear.
See Align for more details

Operation | Combine menu



Operation | Combine | Group

Shortcut: **G**
This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Group using Axis

Shortcut: **ALT+G**

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This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Assemble

Shortcut: **Ctrl+G**
Assembly grouping is similar to normal grouping except that fixtures in the group are still accessible individually.
A good example of an assembly would be a bar of 4 PARs

Operation | Combine | Attach

Shortcut: **Shift+G**
Use Attach to link Dynamic Objects with other objects.
See Dynamic Object for more details...

Operation | Combine | Subtract

See Subtractive Grouping

Operation | Combine | Intersect

See Intersect Grouping

Operation | Combine | UnGroup

Shortcut: **U**
This option allows you to split a group into its components. Each component will be added to the selection.

Operation | Turn Off Operation

Shortcut: **Spacebar**
This option turns off all current operation.

Camera Menu

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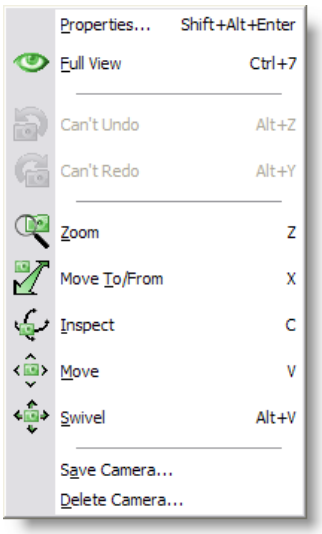

This menu allows you to manipulate the camera of a window.
See Camera for more details

Camera | Properties
For information on the camera properties

Camera | Full View

Shortcut: Double click middle mouse button
This option will try to adjust the camera so that the entire scene will be visible in the current view.

Camera | Full View All

This option will try to adjust the camera so that the entire scene will be visible in all views.

Camera | Zoom

Shortcut: **Z**
This option allows you to interactively zoom in/out. In 2D windows, the scale will change and in 3D windows, it will be the camera angle that changes.

Camera | Move To/From

Shortcut: **X**
This option allows you to move the camera to and from. In 2D windows, this does the same as the 'Zoom' operation. In 3D windows, the camera is moved forwards or

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backwards.

Camera | Inspect

Shortcut: **C**
This option allows you to inspect an object by moving the camera around a point. In 2D windows this can only be done if you have an active (picked) object. The camera will move around the center of the object. In 3D windows the camera will move around the center of an active object if there is an active object, otherwise the camera will move around the focus point of the camera.

Camera | Move

Shortcut: **V**
This option allows you to pan up, down, left and right the camera.

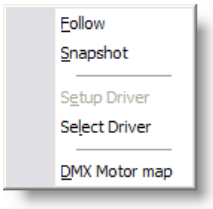
Camera | Swivel

Shortcut: **Alt+V**
This option allows you to look around with the camera. In 2D windows, you can move around then view plane, and in 3D windows you can look around by tilting the camera from left to right and from top to bottom.

Camera | Save Camera...
This option allows you to save a 3D camera position, giving it a name. The camera will be stored with the scene file.

Camera | Delete Camera...
This option allows you to delete one or more cameras (from this scene file).

DMX menu



You will use the entries in this menu to select and setup a DMX driver and to change DMX input/output options.
See DMX for more details

DMX | Follow

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The follow option will turn on/off the follow mode. If the follow mode is active, The program will be sampling the incoming DMX and update the stage settings accordingly, until you turn the follow mode off.

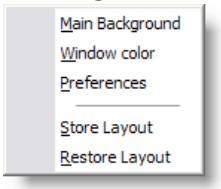
DMX | Snapshot
The Snapshot option will sample the incoming DMX once and update the stage settings accordingly.

DMX | Setup Driver...
This option allows you to change the settings of the current driver. What kind of settings (if any) are available depends on the active DMX driver.

DMX | Select Driver...
This option allows you to select which of the installed DMX drivers you want to use. If you select another driver, it will be used the next time you run the program. In other words, you have to exit and restart the program to have the change of DMX driver take effect.

DMX | Motor Map...
This option allows you to patch Dynamic Objects to DMX channel.

Settings menu



This menu allows you to adjust the appearance and preferences.

Settings | Main Background
This option allows you to change the appearance of the background of the main application window.
See settings for more details

Settings | Window color
This option allows you to change the background color of the 2D-and 3D windows.
See settings for more details

Settings | Preferences
In the preferences dialog you can set your preferences. Some are local (apply only to

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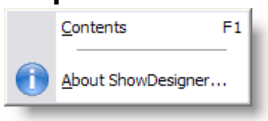
the ShowDesigner module), some are global (they may apply to all Martin ShowDesigner modules). The preferences are arranged into groups, with each it's own page (page). Each page ('Render Settings', 'Snap', 'Grid', 'Units', 'Detail', 'Gamma', 'Auto Save', 'Paths' and 'DirectX driver') will be explained next.
Render Settings page
See Settings for more details

Help Menu



Help | Contents

Shortcut : **F1**
This option will display this help text.

Help | About ShowDesigner...

This option will display a window in which you can get information about the program. By clicking on the info button you will see information about the current installed version, the installation date, the serial number of the program and the name with which the program was installed. By clicking again on the (now 'Version') button, you

3.2 Layout

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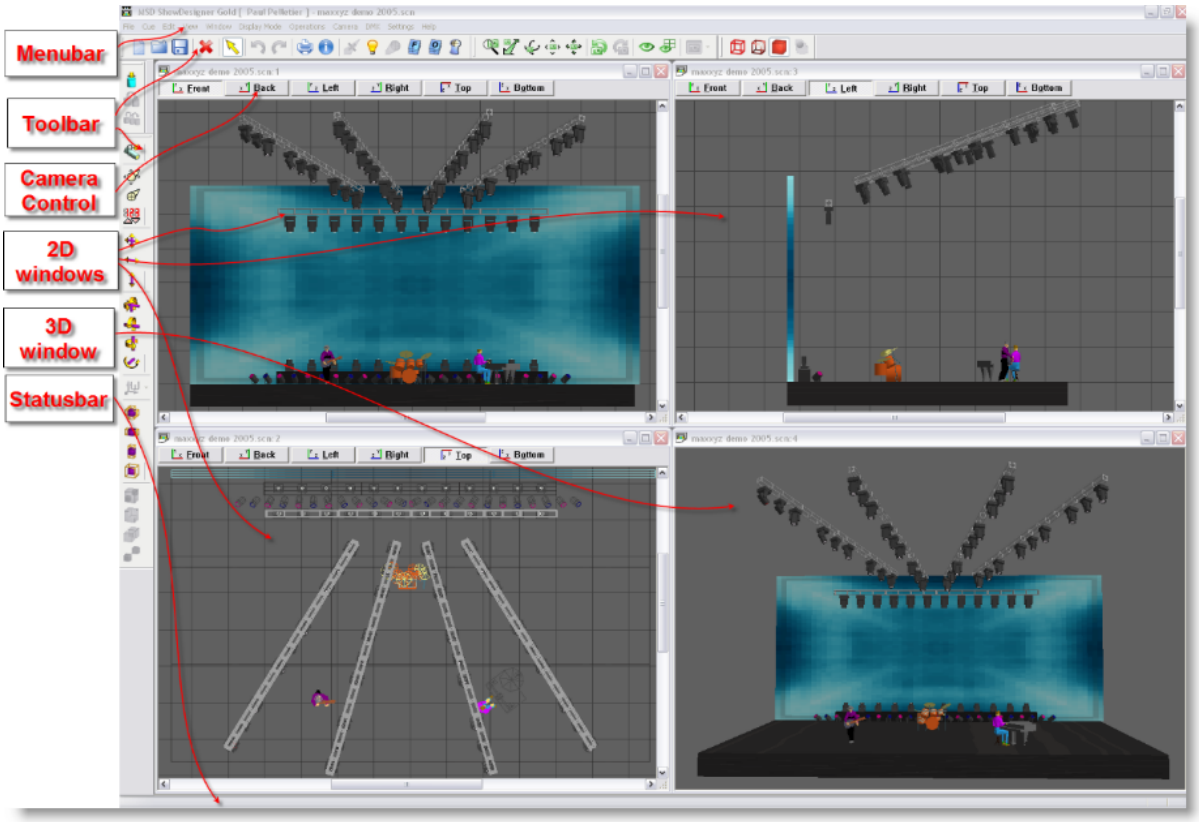

The application window has a menu bar, a status bar, toolbar's, 2D windows and 3D windows.
The menu bar will be covered in Menu the toolbar's in MSD Icons, 2D windows and 3D windows in Window Management.

To build a similar layout as above, simply insert 3 2D views and 1 3D view.
From window menu click Tile.
Set the 2D view one as TOP, one as Left and one as Front
In each view, set the Spot Beam Properties to Never
Then in the menu Settings, click on Store Layout.

3.3 Window Management

The program has 2 types of windows, namely 2D windows and 3D windows.
Each window has its own capabilities, although many are available in both.
You can not change one type of window into the other, but you can open as many windows of both types as you like.
(Opening a window can be done by selecting 'New 2D window' or 'New 3D window' from the menu (see 'Window Menu ').
Both types of windows are further explained in the following sections.

2D Windows

2D windows give you an orthographic view of your scene. You can work in one of six

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views, namely Front, Back, Left, Right, Top and Bottom.

- You can change between these views by clicking one of the 'Camera buttons' in the top of a 2D window. By clicking on the current (down) camera button, the position and scale of the camera will be adjusted so the entire scene will be visible. If only a part of the scene is visible (when you are zoomed in) you can pan through the scene with the vertical and horizontal scrollbars at the right and bottom of the window. You can also hold the middle mouse button and drag the mouse around to pan up, down, left and right
- The 2D window also has a grid to enhance orientation in the object. The size and color(s) of the grid can be set in Grid settings
- In the 2D camera properties dialog of a 2D window you can set the camera position, the scale and if the grid should be visible in this view.
- It can be viewed in wireframe mode or solid mode

Wireframe

Solid

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3D Windows

3D windows give you a perspective view of your scene. Here you can view the scene from any point and with different camera angles. The 3D window has some features the 2D window has not:

- You can use the 'Render' display mode to calculate a realistic image.
- You have an inspect mode, which will rotate your camera around the Y-axis of the scene. You can start and stop the inspect mode by clicking the right mouse button in a 3D window and selecting 'Other', 'Inspect Object' in the appearing context menu.
- In the 3D camera properties dialog of a 3D window you can set the camera position, the focus point (the point you are looking at) and the camera angle.
- It can be viewed in wireframe mode or solid mode

Wireframe

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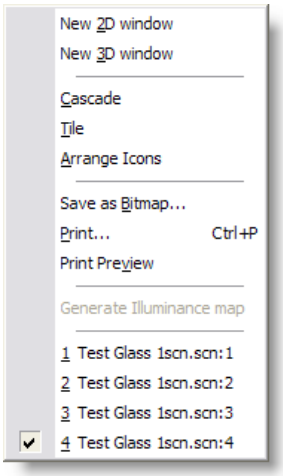
Solid

Using multiple windows
So far we have only had one window open. It is possible to open up as many windows as you like at the same, each one viewing your scene from a different angle. To get you started a simple 4 window set will do.

Click on the Window menu, then click on New 2D Window



· Repeat this process so you have 3 windows open

· Click on the Window menu again and click on New 3D Window

You should now have 4 windows open. Using the mouse you can move and resize the windows until they are laid to your satisfaction. To make it easier, open the Window menu again and click on Tile. You now need to save this setup, so you can go back to it again in the future.

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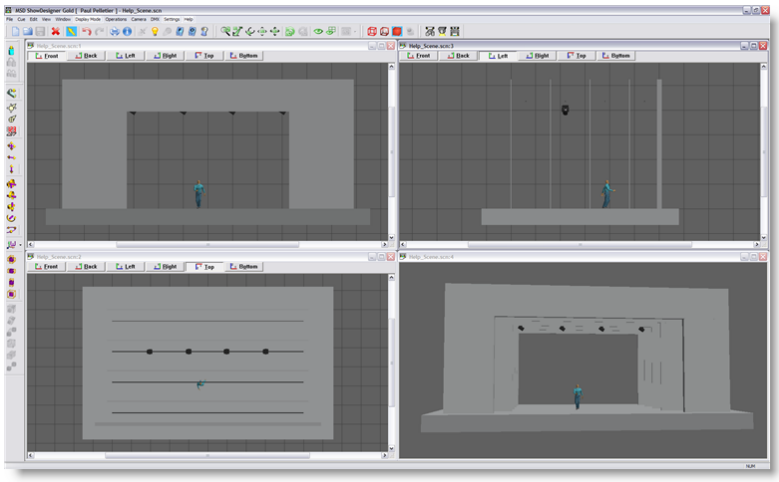
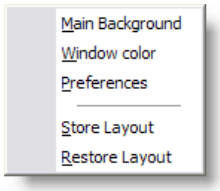


Click on the Settings menu, then click Store Layout



This will save the layout. To return to it at any time, click on the same menu and click Restore Layout.
If you wish to look at one view in more detail, simply click on the maximize button on the window itself. When you want to return to the previous view, click on the restore button.
2D views

See Using Camera for more details

Main Background
You can choose what you have as the main background, behind all the windows on the screen.
Click on Settings and then Main Background.
You then have a choice of nothing, using the main windows image or setting your own image.
See settings for more details

Window Color
To change the color of the background in each window, to something other than black, click on Settings and Window Color. Then choose your color from the list or create your own and click OK
See settings for more details

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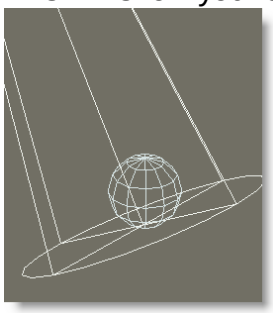
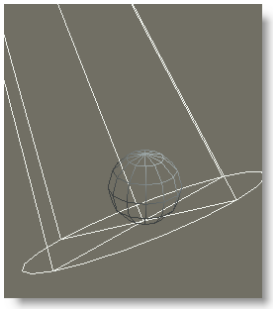
3.4 Display Mode

There are 4 different display modes (Wireframe, Wireframe lit, Solid and Render). Each display mode shows you a different representation of the scene.

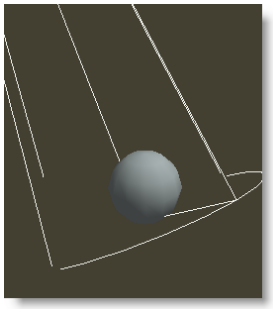
Wireframe
This option will show the objects in wireframe mode.
This will show your objects as solid lines with a single color.



Wireframe Lit
This option will show the objects in wireframe lit mode.
This will show your objects as colored lines, lit by a single light source.



Solid
This option will show the scene in solid mode.
This will show your objects as fast, solid, simple shaded objects, lit by a single light source.



Render
This option will calculate a realistic image of the scene, lit by the fixtures in the scene

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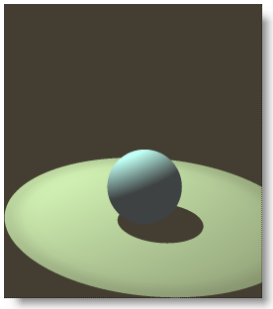
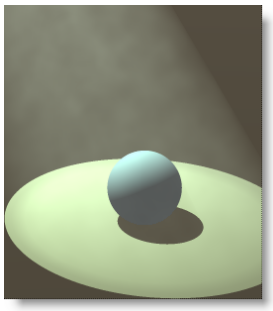
(with their fader, iris, zoom angle gels and gobo settings).
During the calculation of the image, shadows, reflections, transparency and even smoke can be taken into account.
Depending on the complexity of the scene and the selected options, this calculation may take a while.



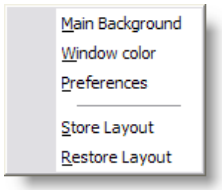
Render with Smoke



3.5 Settings

Various settings that can be change to tailor the MSD to your need.

From the menu click on Settings



Main Background

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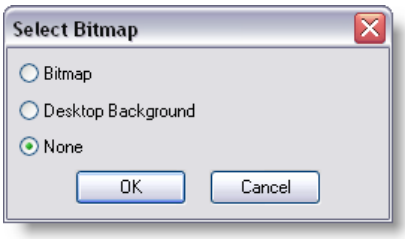
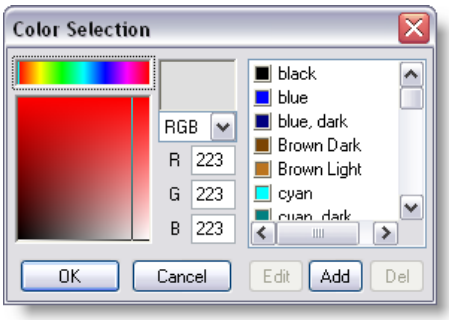


This option allows you to change the appearance of the background of the main application window.

Window Color



This option allows you to change the background color of the 2D-and 3D windows.
Use this to change background form a dark color to a light color or vice-versa to have a contrast between objects and background.

Click here for Preferences help

Store Layout

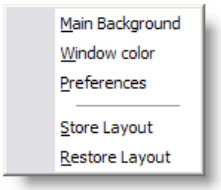
This option allows you to save the layout of the program. It will store positions and sizes of the application windows,
the 2D and 3D windows, and the lists (Object, Fixture, Material and Cue).

Restore Layout

This option allows you to restore the layout of the program by loading the saved settings.

3.5.1 Preferences

From the menu Settings, click on preferences



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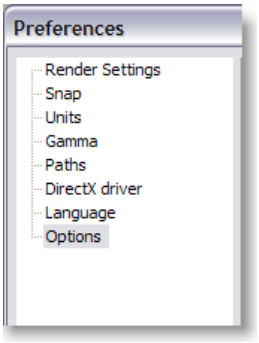


Render Settings

Object Snap

Units

Gamma

Paths

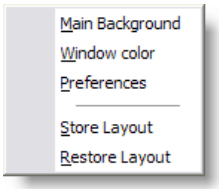
DirectX Driver

Language

Options
[****]

3.5.1.1 Rendering Default Settings

To set the default Rendering settings, from the menu Settings, click on Preferences



click on Render Settings

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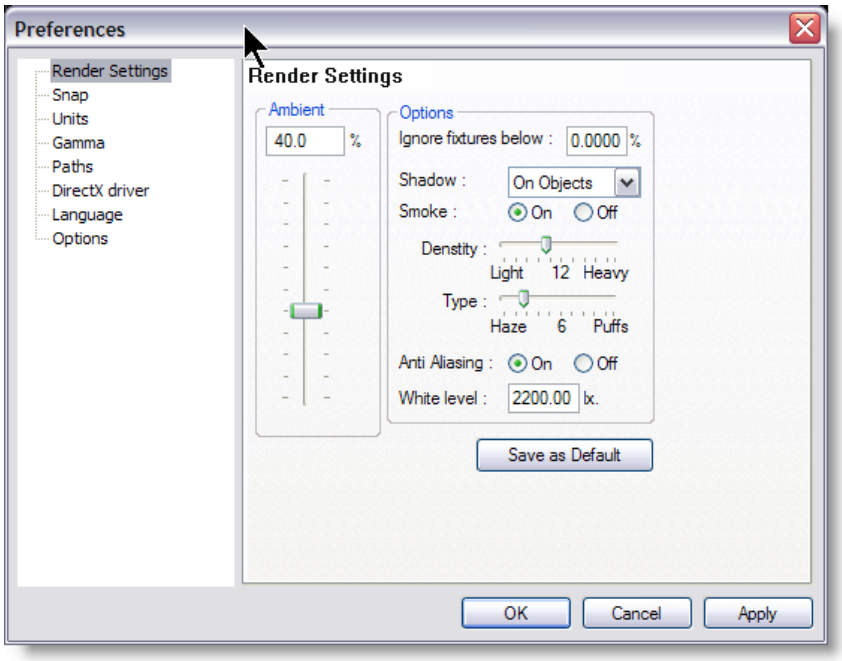
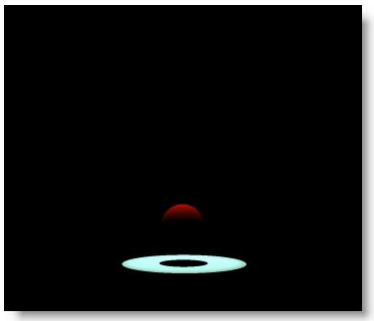


Default Render Settings

These settings are the one used when clicking on the Trace/Shadow icon while in a 3D view
The Same settings will appear in the alternative way to start a rendering.

- **Ambient**
  Controls the general lighting level in the scene.



Ambient @ 0%

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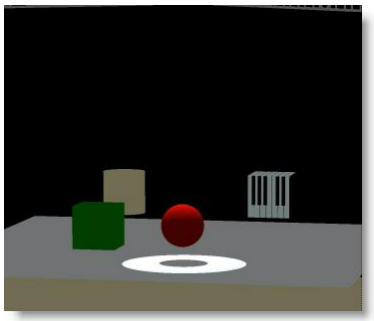
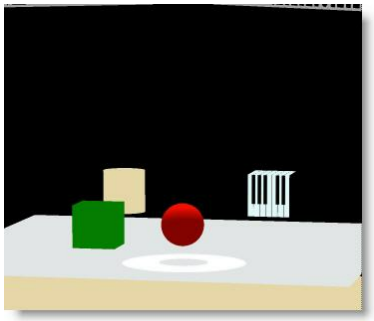


Ambient @ 50%



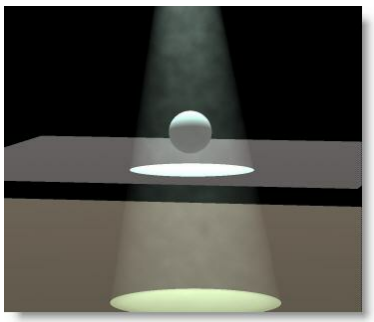
Ambient @ 100%

- **Ignore Fixture Below...**

  Any fixtures below the percentage set here will not be shown

- **Shadow**

  Controls whether shadows show up on objects, everything or nothing at all. Less shadows will take less time to render.



Shadow= None

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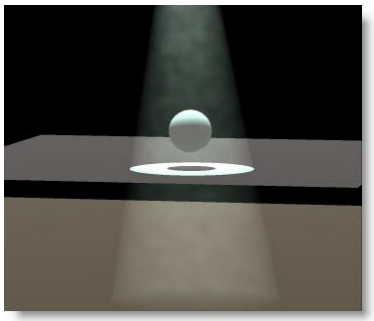
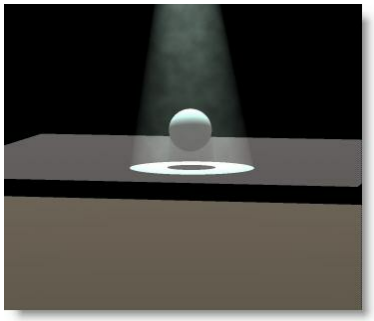


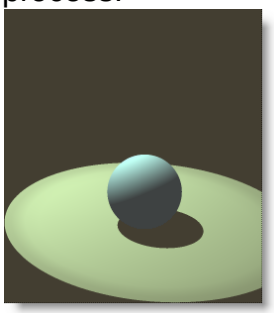
Shadow= On Object (smoke rays goes through objects)



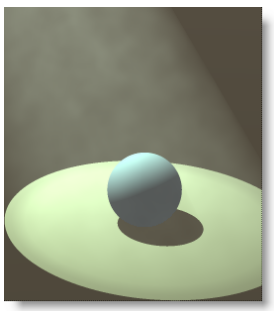
Shadow= Always

Smoke

Turns smoke or haze in the atmosphere on or off. Smoke on slows down the rendering process.



No Smoke



With Smoke

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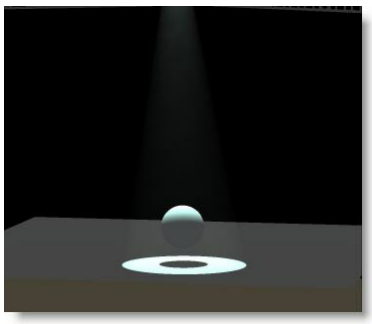
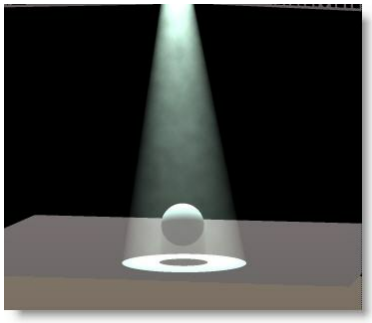
- **Smoke Density**

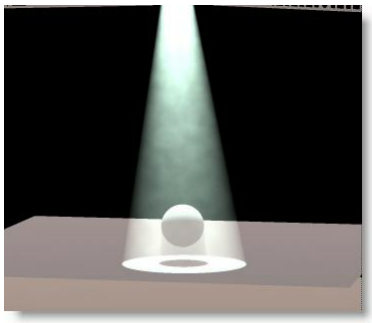
Controls the level of smoke in the scene.



Smoke Density @ 1



Smoke Density @ 15



Smoke Density @ 30

- **Smoke Type**

Controls whether the smoke is evenly spread out, like a haze machine or in puffs like it might be from a smoke machine.

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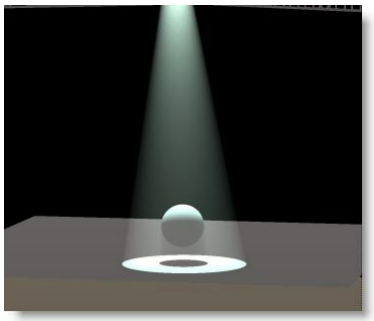
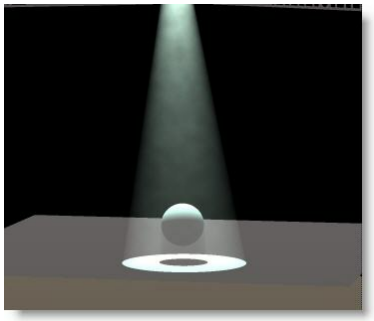
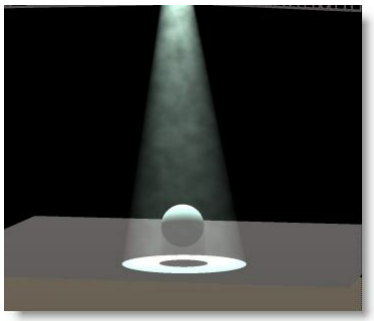


Smoke Type: Haze @ 1



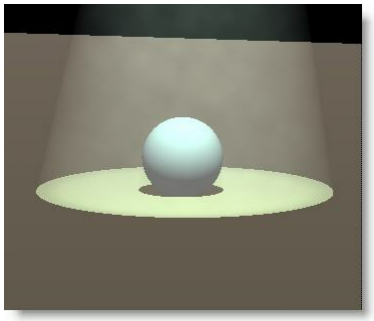
Smoke Type: Haze / Puff @ 15



Smoke Type : Puff @ 30

- **Anti-Aliasing**

Anti-Aliasing is a process that soften the edges in a rendering process. It does take a little more time, but makes rendering more natural.



Without Anti-Aliasing

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approximately-*Aliasing*

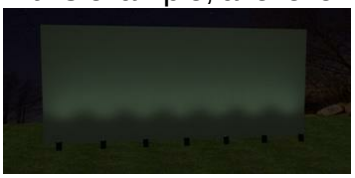
- **White Level**

Imagine the White level as the eyes sensitivity or camera sensitivity. It could be explained as the amount of light require to have a white surface looking white...

The default value of 2200.00 lux (200 foot candle) is appropriate for more stage rendering

However, for exterior architectural rendering a setting of 800 lux (75 foot candle) could be more appropriate...

In a relatively low ambient light level, the eyes is more sensitive, let say 500 lux
In a normal ambient light level the lux level for white is approximately 2200 lux
In a situation when you have light blasting directly in the camera, a level of 5000 lux could be used...
Here's some example of the same scene render at different white level.
In this example, a level of 1000 lux appears to be normal.



White Level @ 5000

White Level @ 2200 (Default)

White Level @ 1000

White Level @ 500

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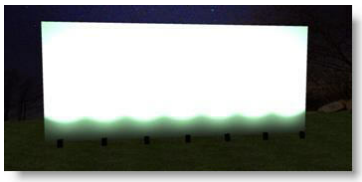
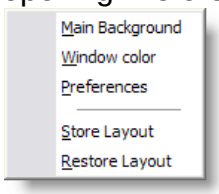


White Level @ 100

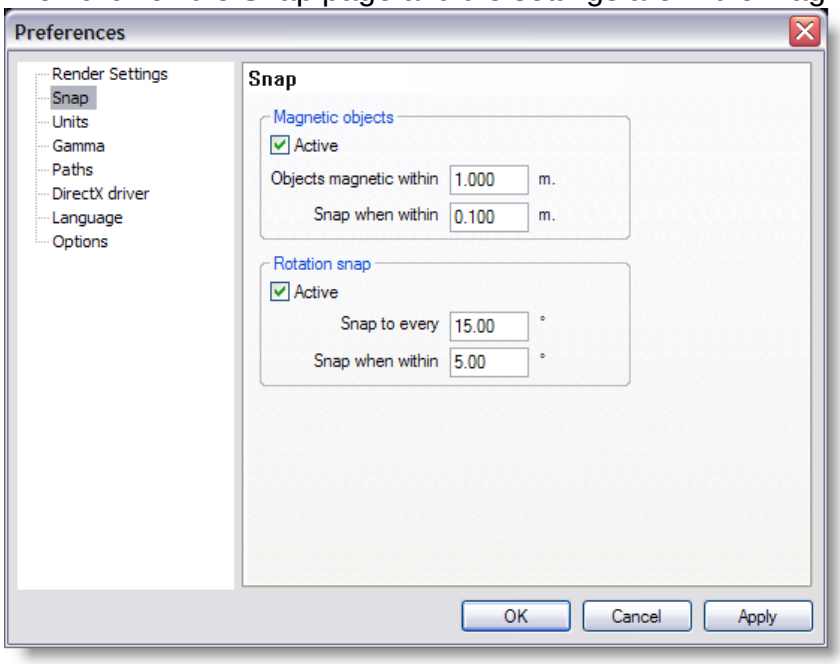
3.5.1.2 Object Snap

The magnetic snap effect.

The default settings for the magnetic snap system are set so an object will become magnetic when it gets within 1m of another object and it will snap the to the object when it's within 0.1m. You can adjust these settings by clicking on the Settings menu and opening Preferences.



Then click on the Snap page and the settings are in the Magnetic box.



You can even turn the magnetic effect off.
Here is how the effect works, this example assumes you leave the settings at their default value.

When objects are more than 1m apart, nothing happens.

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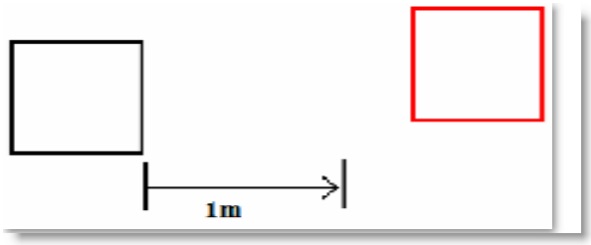
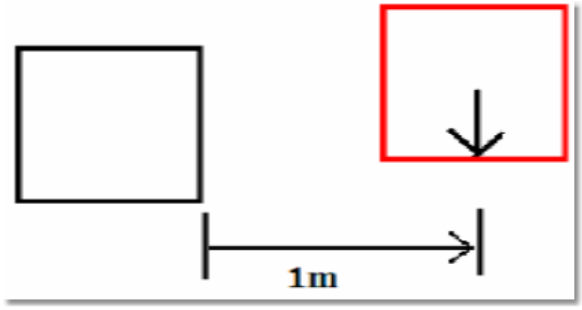
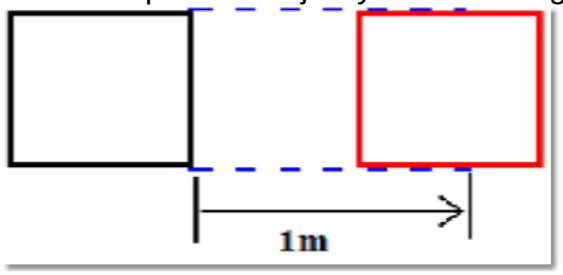


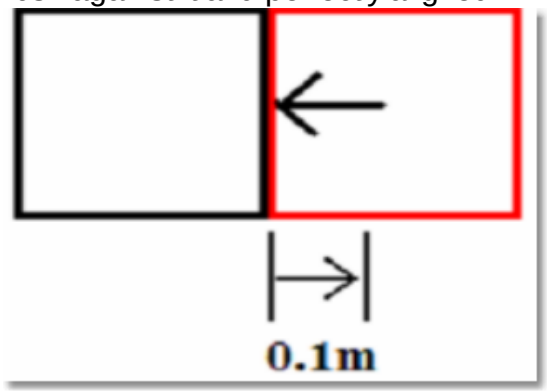
When you move an object to within 1m, the magnetic effect starts to work.



The effect pulls the object you are moving into alignment with the other object.



When you move the object to within 0.1m it is pulled up against the other object, so it is flush against it and perfectly aligned.



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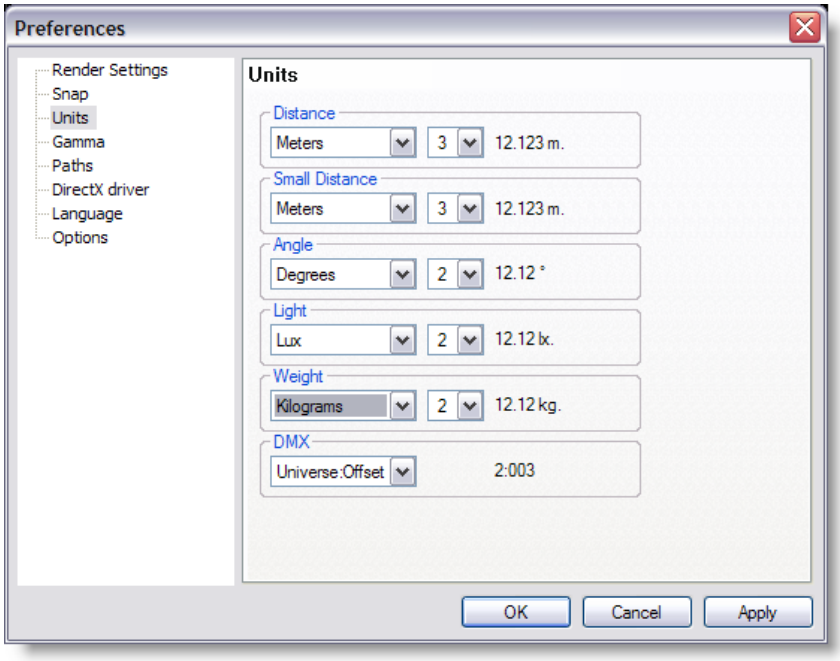
3.5.1.3 System Untis

The MSD can work in both Imperial or Metric system.
At any point in the creation process you can switch from one system to the other, call values will be converted as indicated
For each settings the precision (number of decimal digit) can be set.



Distance

Set the unit values to enter position and dimensions of objects

- Distance: Meters, Millimeters, Inches or Feet & Inches.

Imperial value must be enter as follow
1'2" = 1 foot 2 inches
When using Feet&Inches, enter a value with no comma or quote will be considered as inches

Metrics value can be set in Meters or Millimeters

Small Distance

The small distance unit is used when the distance to enter is small like in the margins in

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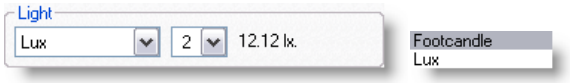
paper or the line thickness when importing DXF.
When using metric units the normal distance unit is meter, but this would result in a lot of 0,00x numbers when dealing with these small sizes.
To make this more readable we added the extra small distance unit, so the user can display these small numbers in mm or inches.

Angle

- Angle: Degrees (360°), Radials (2p) or Gradients (400°).

The most common settings for Angle is Degree.
In some situation Gradient or Radial degree can be chosen.
See Formulas for more details in angle types

Light



- Light: Lux or Foot-candle.

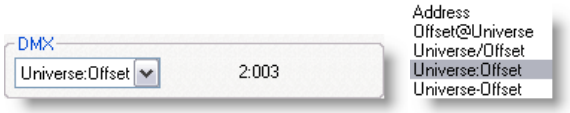
In MSD, it is possible to calculate the amount of light at a specific point on a surface.
The light intensity can be displayed as Lux or FootCandle.

Weight

- Weight: Grams, Kilograms or Pounds.

In the Paperwork module, it is possible to see the fixture weight.
It can be displayed as Grams, Kilograms or Pounds.

DMX



Various ways of displaying DMX addresses are possible in MSD
Offset is the DMX address.
Universe is the DMX link

3.5.1.4 Gamma

The Gamma page contains global preferences for the way your monitor displays colors

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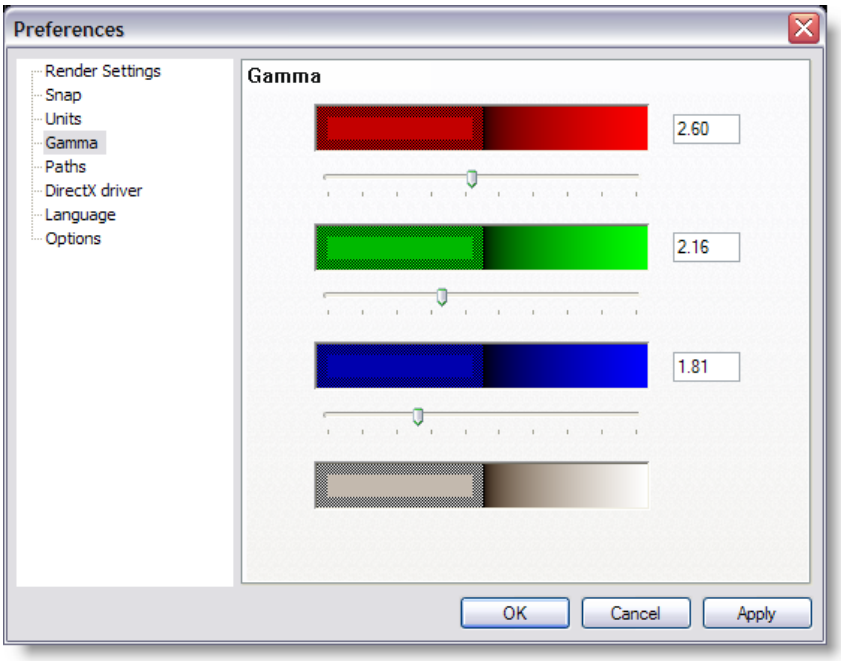

In this page you can set the way the program adjusts colors. Determining how the colors should be adjusted is done by using the three sliders and/or values.
There are four color sections, one for red, green, blue and gray each. Every section has an outer area and a center area. The outer area is a dithered pattern of pixels with luminance values of 0% and 100%, and the center area contains pixels with a luminance value of 50%. So to get correct values, the inner and outer area should be optically of the same intensity. Use the scrollbar and/or edit box to adjust the image's gamma level so that the inner areas and the outer areas are of equal brightness. The correction value that synchronizes their luminance is the gamma level of your monitor.

3.5.1.5 Paths

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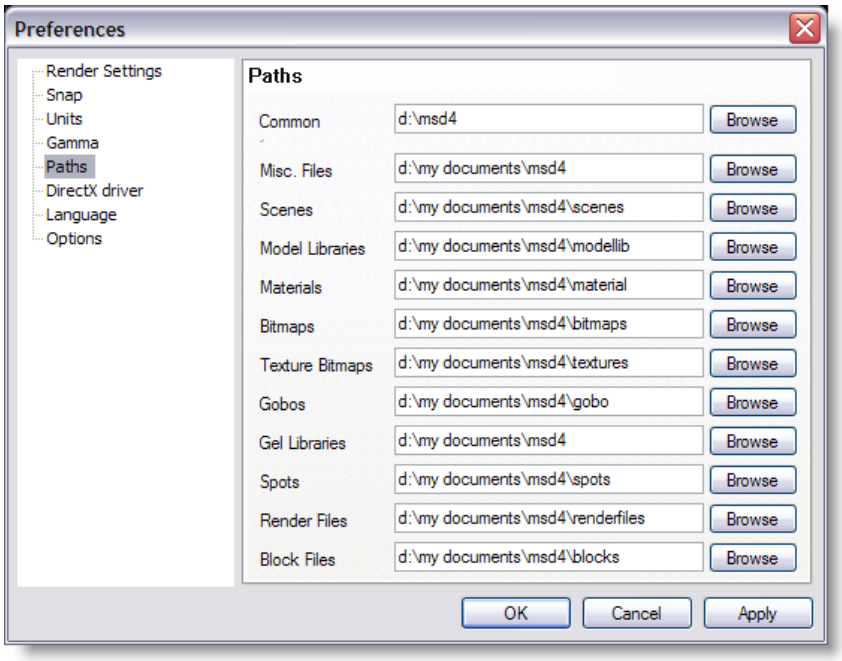

In the Paths page, the default paths to the different kind of files are set.
By default they point to the installed subdirectories. Normally you don't have to change any of them.

Common: Is the location of the default MSD files such as fixtures, textures, demo scenes etc...
By default the location is "C:\Documents and Settings\All Users\Documents\MSD4"

The other fields are the locations on user files, meaning the file you create.

When open a window to import or load something is MSD you will notice two buttons at the top left (User and Common)
Click one of the buttons to access the right folder set.

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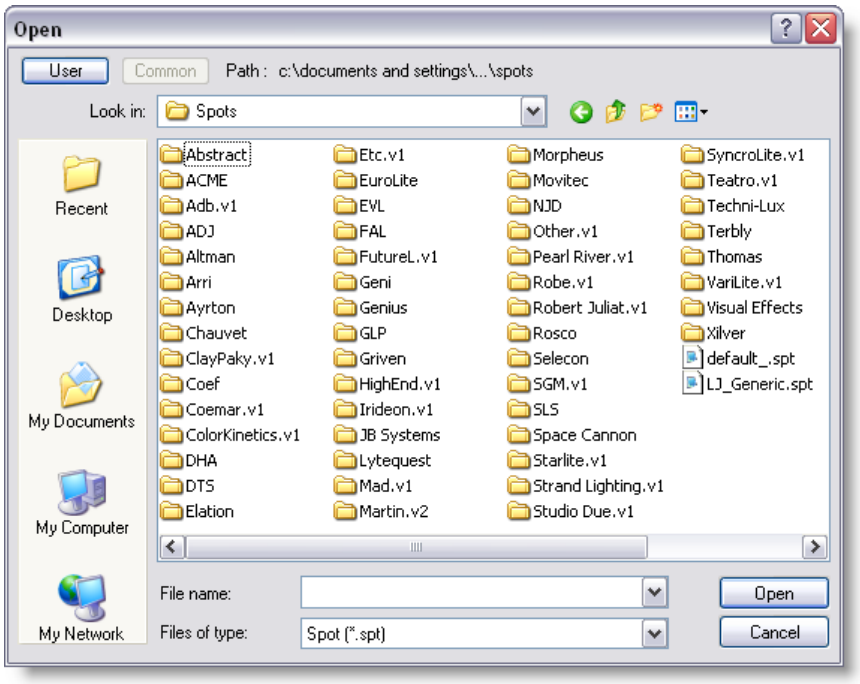

As a rule, put all the file you create or add manually to the user folder set and leave the Common folder as default.
Only add files to the common folder when updating from the official MSD library.
This will ensure the integrity of the files you use and also avoid that your modified library gets overwritten when updating the new library.

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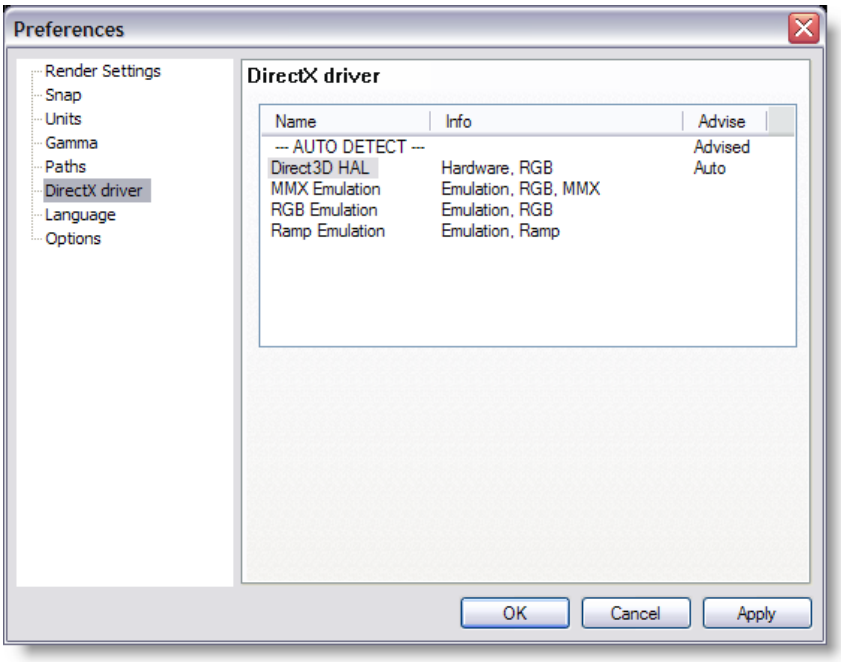
3.5.1.6 DirectX



In this page you see which DirectX drivers are available, and you can specify which driver you want to use.
The drivers are listed in order of preferred capabilities. Default, the first ('--- AUTO DETECT ---') will be selected.
When this option is selected, the program will automatically select a driver on its capabilities.
If you have problems with the automatically selected driver, you can override it by selecting one of the other drivers.

DirectX means all graphical calculation are handled by the Graphic Card processor
In MMX Emulation, the calculation are now handled by the main processor.
Generally DirectX mode is faster.

If you encounter some strange result in the display when using MSD, the first thing is to make sure you have the latest video driver for you Graphic Card.
Most video drivers that comes on the graphic card bundle CD are old drivers, so please check with the card manufacturer.

If updating the driver doesn't help, try switching to MMX emulation.

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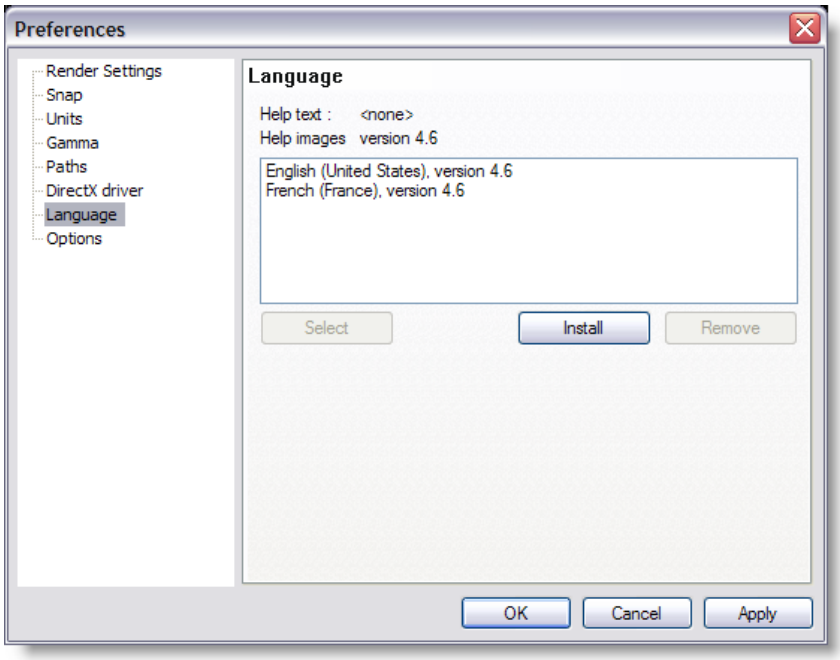
3.5.1.7 Language



In this page you see which help language is currently selected (and which are available). You can select one from the available list by clicking on it and then press the 'select' button.
You can remove one or more languages by selecting them, and then click on the 'remove' button. (On Windows2000 this can only be done by a user with administrative rights)
You can (re)install help files (if available) by clicking on the 'Install' button, after which a dialog will appear.

In this dialog you will see all available language versions in the selected directory.
If there are no versions available, you can use the 'manual folder' button to browse to a directory which does contain a help version.
On the ShowDesigner CD, the folder you need is 'D:\manuals' (if D is your CDROM drive). From the available list you can install one or more versions by checking the checkbox in front of them, and then click OK.

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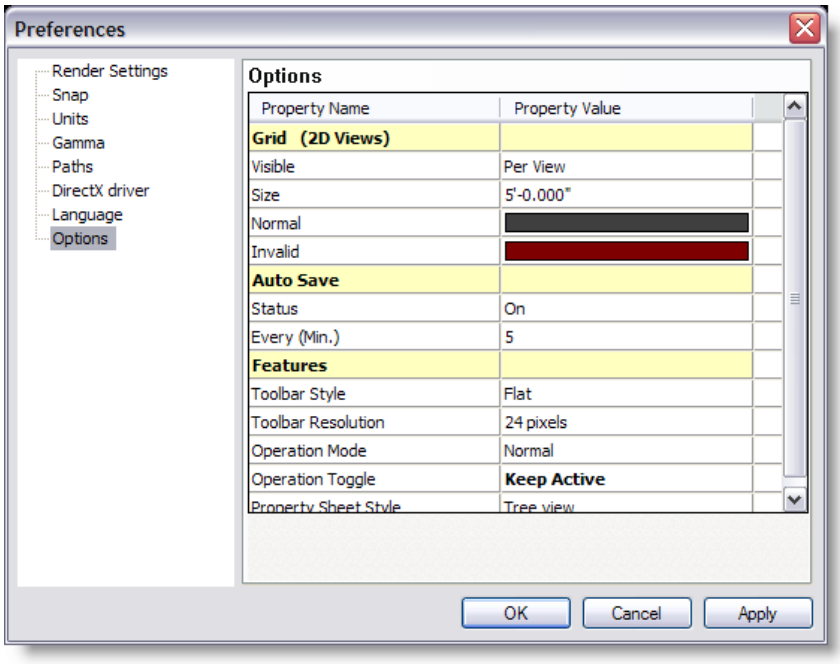
3.5.1.8 Preferences Options

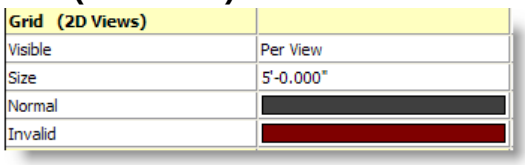


Grid (2D Views)

Auto Save

Features

Grid (2D Views)



You will have noticed that every 2D view has a grid in the background. The default setting for this grid is 1m. This means every square you see is 1m by 1m in size.
If you zoom out eventually you will notice the grid change. As the grid becomes impossible to use when you zoom out, it replaces it with a larger grid. It also changes the color to you know this has happened.
You can change the settings for your grid by going into the main Preferences window, (under the Settings menu) and clicking on the Grid page.

You have the option to change the size of the grid, the colors used and even decide if you want the grid on, off or on in some windows and off in others (per view).

If you wish to turn a grid off in one particular window:

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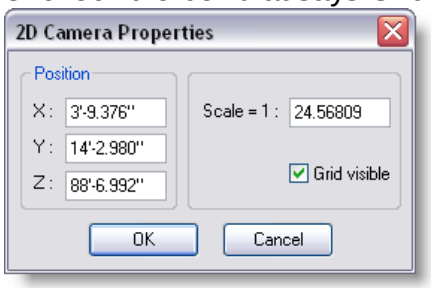
Ensure you have set the main preferences to '**per view**'

Back to the Show Designer window, Click on the 2D window you wish to change, to make sure it's active
Press Alt + Shift + Enter
Uncheck the box that says Grid Visible



Click OK

Auto Save

Auto Save	
Status	On
Every (Min.)	5

When set on a backup scene is saved at specified interval.
The back files are place is the User folder
The temporary file will look something like 'Backup 05_29_00 14_46_20.scn', which means its a Scene backup, created at 14:46 on May the 29th 2000.

Features

Features	
Toolbar Style	Flat
Toolbar Resolution	24 pixels
Operation Mode	Normal
Operation Toggle	**Keep Active**
Property Sheet Style	Tree view

Toolbar Style:

Toolbar Resolution:
24 Pixels are the new icon style, it's always possible to revert to the Classic icon...

Operation Mode:
The choices are Normal or Bounding box
This is the way objects are displayed while moving a camera view
In Normal the objects remain visible, bounding box will make the object disappear and show a wireframe box
for slower video card bounding box can be use to accelerate the movement

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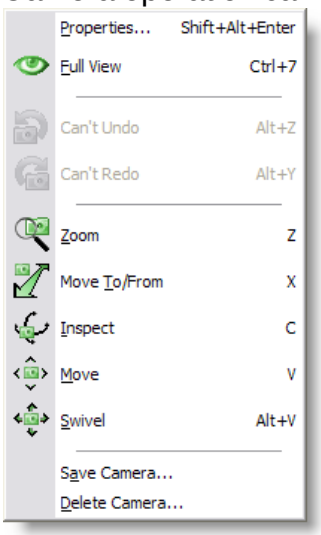
Operation Toggle
The choices are Toggle or Keep Active
In toggle mode, every time you press an hotkey such as M for move, the operation will be toggled (on or off)
In **Keep Active** mode, pressing a hotkey while this operation is already selected, the operation remain active.

Use the Spacebar or the Icon to turn off the current operation.

3.6 Camera

Camera on the Show Designer works very much like a camera in real world
You can move it, change where it's looking at and modify it's zoom.
Camera properties can be change using the mouse or can also be change in the Camera properties window

Camera operation can be choose from the Camera Menu...



...Or from the Camera Toolbar

You can view a 3D window from almost any angle you like. You have 5 camera movements you can use:

Camera Zoom [Hotkey Z]
Holding the LMB and moving the mouse up or down will zoom the camera in and out.

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Zoom Like on a real camera, zoom will allow you to zoom in or out of the scene

Camera In/Out [Hotkey X]
Holding the LMB and moving the mouse up or down will move the camera in and out.
Would be like walking towards your scene with the camera, instead of using the zoom

Camera Inspect [Hotkey C]
Holding the LMB and moving the mouse around will move the camera around a selected object or if no select is made, it will move around the focus point of the camera (see camera properties)

Camera Move [Hotkey V]
Holding the LMB and moving the mouse around will move the camera in and out.
Lift the camera up, down, left or right

Camera Swivel [Hotkey Alt+V]
Holding the LMB and moving the mouse around will move the camera direction
Point your camera in a different direction

Camera Undo [Hotkey Alt+Z]
Undo the last Camera change in the selected view

Camera Redo [Hotkey Alt+Y]
Redo the last Camera Undo in the selected view

Full View [Hotkey Ctrl+7]
Zoom the Camera to fully see the scene of the current view

Full View All
Zoom the Camera to fully see the scene of all views

Camera Selection (only in 3D window)
Press the down arrow and select a saved camera view

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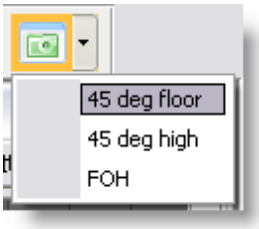

Or Press the icon and select the camera from the following window

Camera Properties

Save a Camera View

Delete a Camera View

3.6.1 Camera Properties 2D

In Show Designer, there are two type of Cameras; The one for 2D view and the one for 3D view
Camera can be move manually with the mouse(see Using Camera) or edited with values.

Every 2D window has six view buttons across the top. These can be used to view your scene from any of the 6 directions:

You can use the Zoom button and drag the mouse to zoom in and out. The mouse wheel will also do this, except it will zoom in on what ever the mouse is currently pointing at.
You can use the Camera Move button and drag the mouse to move the view around. The middle mouse button will also do this.

Camera Properties can be access in three ways
-With the hotkey SHIFT+ALT+ENTER
-From the right-click menu on a view
-From the menu Camera

2D Camera Properties

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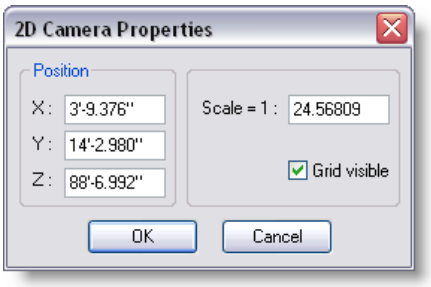

Position
X: Set the Camera position form left to right
Y: Set the Camera position form bottom to top
Z: Set the Camera position form front to back

Note: If you are on a Top View for example, only the X and Z need to be set. But make sure the Y value is higher then the maximum height of the scene, otherwise part of the scene will be clipped.

Scale
Set the number of unit that 1 unit on screen represent in real life
Example 1:150

Grid Visible
When checked, a grid will be visible.
However, if the grid is not showing, probably the general grid settings is set to Never in the Setting/Preferences/Grid

---

3.6.2 Camera Properties 3D

In Show Designer, there are two type of Cameras; The one for 2D view and the one for 3D view
Camera can be move manually with the mouse(see Using Camera) or edited with values.

Camera Properties can be access in three ways
-With the hotkey SHIFT+ALT+ENTER
-From the right-click menu on a view
-From the menu Camera

3D Camera Properties

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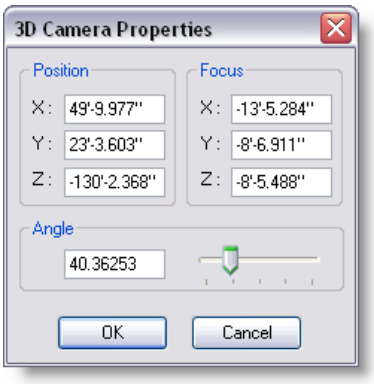

Position
X: Set the Camera position form left to right
Y: Set the Camera position form bottom to top
Z: Set the Camera position form front to back

Focus
X: Set the Camera "Look At" form left to right
Y: Set the Camera "Look At" form bottom to top
Z: Set the Camera "Look At" form front to back

Angle
Set the angle of the zoom.
A wider zoom will give more perspective.
A good perspective setting usually means a better sense of dimension...
As a reference, the human eyes has a field of around 60 degree (image in focus)

Therefore setting the camera at 60 degree and then moving the Camera will give a real-life like viewing.

Here's three example of camera settings where you can see the perspective in action

4 degree at 200 meters

60 degree at 18 meters

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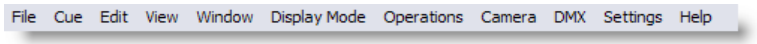
120 degree at 15 meters

3.6.3 Camera Save/Delete

Camera set in 3D view can be store.

Once you have set up your camera you will want to save the position, so you can go back to it later.



Click on the Camera menu, then click on Save Camera

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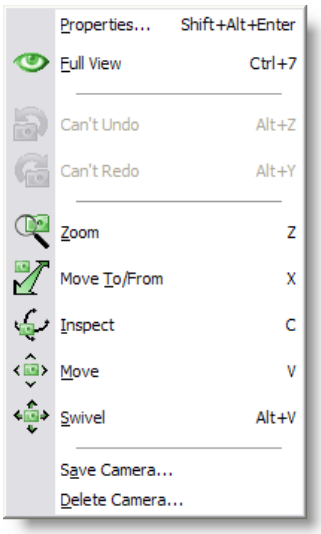
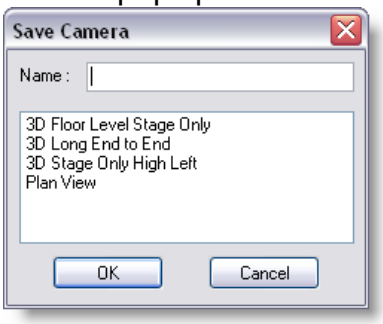


This will pop up a small window



Type in the name for your view and click OK.

You can save as many different views as you like.

If, while setting up your camera views, you make a mistake, there are a few buttons that can help.

Camera Undo will allow you to go back to your previous view setting.

And if everything goes completely wrong and you want to start again, click on Full View. This will reset the camera to viewing the whole scene.

Full View: Will set the current view only

All Full View : Will set all open views to Full View

There are two ways of saving 3D camera

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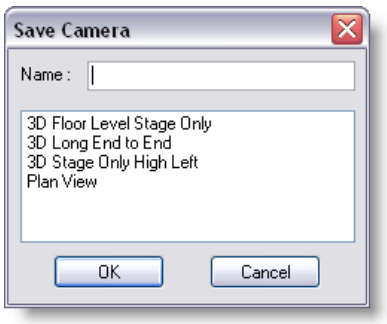
-From the menu Camera, select Save Camera...
-From the right-click menu, select Camera and then select Save Camera...



Type in a name from the Camera and press OK

To delete a Camera
-From the menu Camera, select Delete Camera...
-From the right-click menu, select Camera and then select Delete Camera...

Select the camera and press OK

3.7 Fixtures

Fixture List

Importing Fixture

Inserting Fixture

Select and Manipulate fixture

Replacing fixture

Duplicate Objects or fixture

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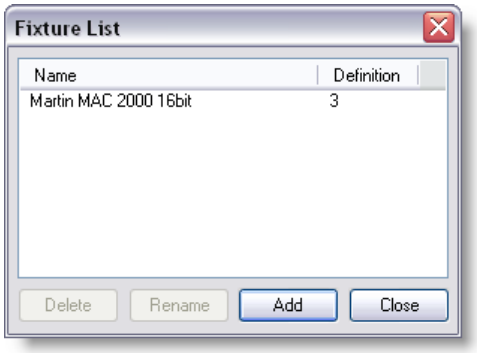
3.7.1 Fixture List



This list shows all the fixtures that are in this scene. To open this window you must select the 'fixture list' menu item. In new scenes this list will be filled with the fixtures defined in the file 'Default.spt' in the spot directory. By default this file contains a long list of Martin fixtures. The second column of the list shows you the version of the fixture definition. At the bottom of the window are four buttons. The functions of these buttons are described below. At the top of the list you see a gray area with the text 'Name' and 'Definition' in it. This is called the header. In the header you can also see two vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and, while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. All fixtures in this list can be inserted in the scene using the insert fixture operation that is activated by clicking the button.

- The **Delete** button:
  The 'Delete' button simply allows you the remove the selected fixture from the list. You will be asked to confirm this action. Deleting the fixture from the list will not affect any inserted fixtures of the selected type in the scene. You can however no longer insert a fixture of this type in scene.

- The **Rename** button:
  The 'Rename' button allows you to change the name of the selected fixture. After you have clicked on this button, a box will appear around the selected fixture, in this box you can type a new name. After you press the enter-key the fixture will be renamed. If the name you entered already exists in this scene you will see an error box and the rename operation is canceled.

- The **Add** button:
  The 'Add' button allows you to get fixtures from fixture definition files into this scene. You will be presented with the standard file open dialog box in the spot directory. You can now select the fixture definition file you want to add to this scene. All fixtures in the selected file will be added to the scene. If the fixture definition file contains a fixture with a name which is already used in this scene the new fixture will be renamed by adding a '.x' to the name, where the x represents a number starting from 1 and increasing until a name if found that is

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not used.

- The **Close** button:
  The 'Close' button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. This window can be opened again by selecting the 'Fixture list' menu item in the 'View' menu.

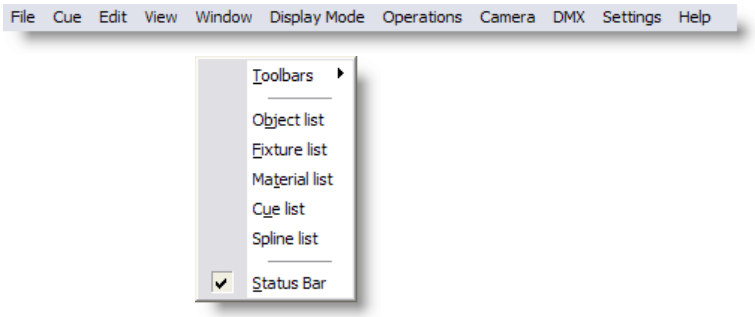
3.7.2 Importing Fixture in a Scene

When starting a new scene, the Fixture list is contains some fixtures by default.

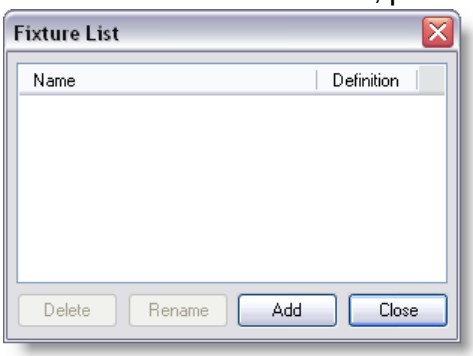
Note:To avoid having fixture loaded by default when creating a newscene, rename the file Default.spt to something else
usually this file is in the folder "C:\Documents and Settings\All Users\Documents\MSD4\Spots"

If the desire fixture can't be found in the list, it can be imported in the scene following these steps:

From the **View** menu, select **Fixture List**



From the Fixture list control, press **Add**



Browse to the desire manufacturer folder and press **Open**
*Note: Some generic fixture like PAR's can be found in the folder **Other***

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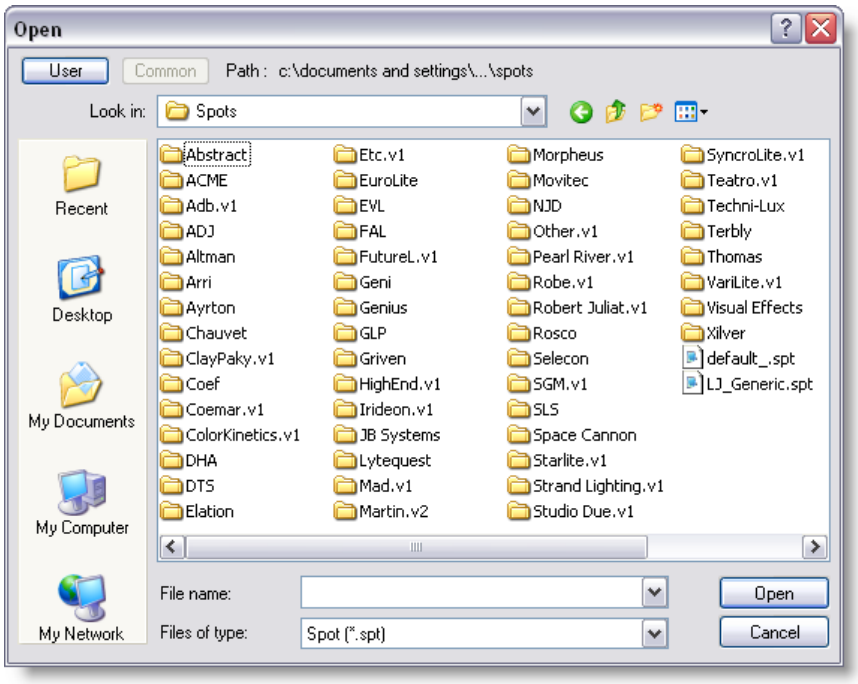
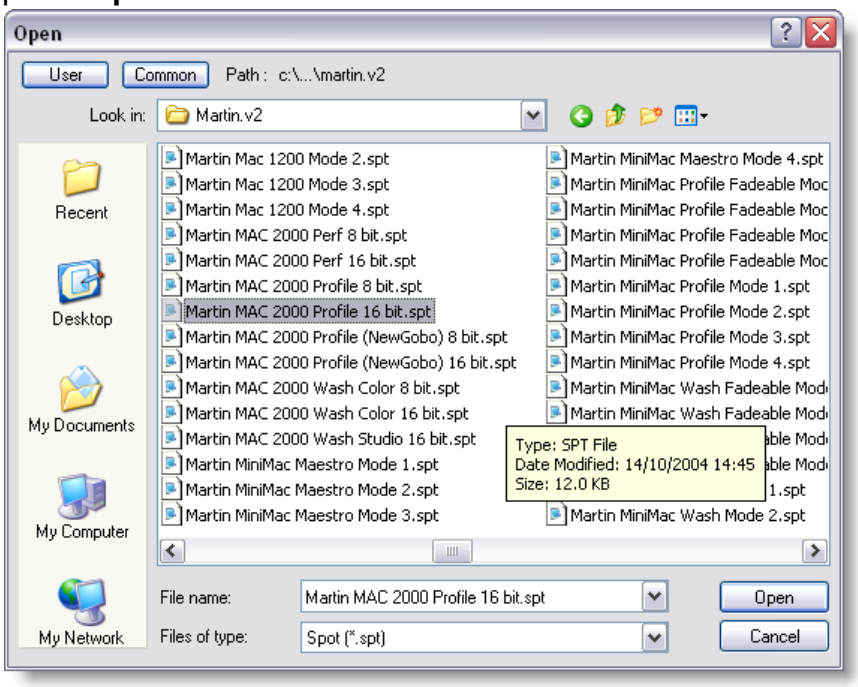


Select one or multiple fixtures from the list (Use CTRL or Shift for multiple selection) and press **Open**


Open
User
Common
Path : c:\...\martin.v2
Look in: Martin.v2
Recent
Desktop
My Documents
My Computer
My Network
Martin Mac 1200 Mode 2.spt
Martin Mac 1200 Mode 3.spt
Martin Mac 1200 Mode 4.spt
Martin MAC 2000 Perf 8 bit.spt
Martin MAC 2000 Perf 16 bit.spt
Martin MAC 2000 Profile 8 bit.spt
Martin MAC 2000 Profile 16 bit.spt
Martin MAC 2000 Profile (NewGobo) 8 bit.spt
Martin MAC 2000 Profile (NewGobo) 16 bit.spt
Martin MAC 2000 Wash Color 8 bit.spt
Martin MAC 2000 Wash Color 16 bit.spt
Martin MAC 2000 Wash Studio 16 bit.spt
Martin MiniMac Maestro Mode 1.spt
Martin MiniMac Maestro Mode 2.spt
Martin MiniMac Maestro Mode 3.spt
Martin MiniMac Maestro Mode 4.spt
Martin MiniMac Profile Fadeable Moc
Martin MiniMac Profile Fadeable Moc
Martin MiniMac Profile Fadeable Moc
Martin MiniMac Profile Mode 1.spt
Martin MiniMac Profile Mode 2.spt
Martin MiniMac Profile Mode 3.spt
Martin MiniMac Profile Mode 4.spt
Martin MiniMac Wash Fadeable Mod
Martin MiniMac Wash Fadeable Mod
Martin MiniMac Wash Mode 2.spt
Type: SPT File
Date Modified: 14/10/2004 14:45
Size: 12.0 KB
File name: Martin MAC 2000 Profile 16 bit.spt
Files of type: Spot (*.spt)
Open
Cancel

The imported fixture now appears in the list

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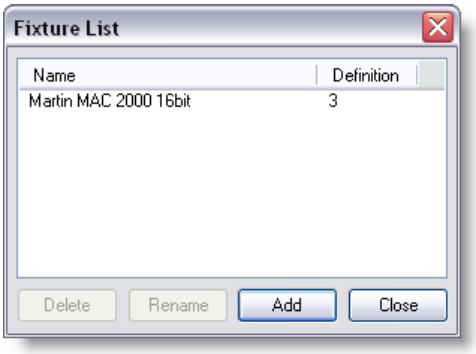


Note: If the same fixture model is imported a second time, a number will followthe fixture name.

Once a fixture is imported in a scene, it can be use as many times as needed in the scene.
If the fixture is modified in the library where it was imported from, it will not affect the fixtures on the scene.

If the fixture is deleted from the Fixture List, the fixture in the scene will remain. Actually, when deleting an fixture for the list, the fixture still remain on the scene but is simply hidden from the Fixture List. See Scene Compactor for detail on how to permanently delete an fixture from a scene.

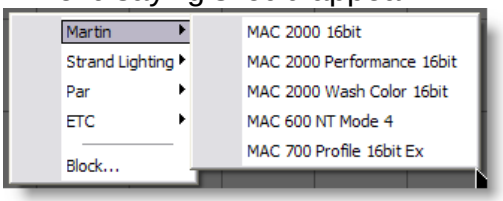
3.7.3 Inserting Fixture in a Scene

To insert a fixture in a scene:

First you must import some fixtures in the scene.
By default some Martin fixture are automatically imported in a newscene. see this topic to change this

Click the Fixture Insert button.
Click in a 2D view.

A menu saying should appear



Click on the manufacturer *(remember this is not the whole fixture library, but only the fixture imported in the scene)*

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This should bring up a list of fixtures, select the desired fixture.

The fixture is now place on the scene.

Tips: When inserting an object from the top view, the insert point of the object will be place on the 0 of the Y axis
So if you want to import a fixture or object for a pipe placed at 12 meters from the ground, insert it in the side view by clicking at the pipe level.
No the object or fixture will be inserted close to its final height and in the center (0) of the X axis.

3.7.4 Select and manipulate fixture

Controlling fixtures
Let's point the fixtures at the person on stage.

- In a 2D view, pick a fixture and press the + key on the numeric keypad.
- Pick the other fixture and press the + key again.
- Or hold the CTRL key and click on the fixtures or drag a rectangle enclosing both fixture
- Both fixtures should now highlighted in green.
- Select the Focus Beam button.
- Click on the person on the stage.

Tip: You can use Light Mode to help when selecting fixtures, with this mode on you won't be able to select anything other than fixtures. Click on the Light Mode button to turn this on.

Now set up your lights. Right click on a fixture and select properties. By going through all the pages you will find all the settings for the fixtures, pick the colors, gobos etc to make the fixtures do what ever you want.

Use the orientation settings to position the fixture in the 3D space (See System Axis to understand the X, Y and Z fields)
Position: The physical location of the fixture
Rotation: The physical orientation of the fixture
Focus Point: The beam target .

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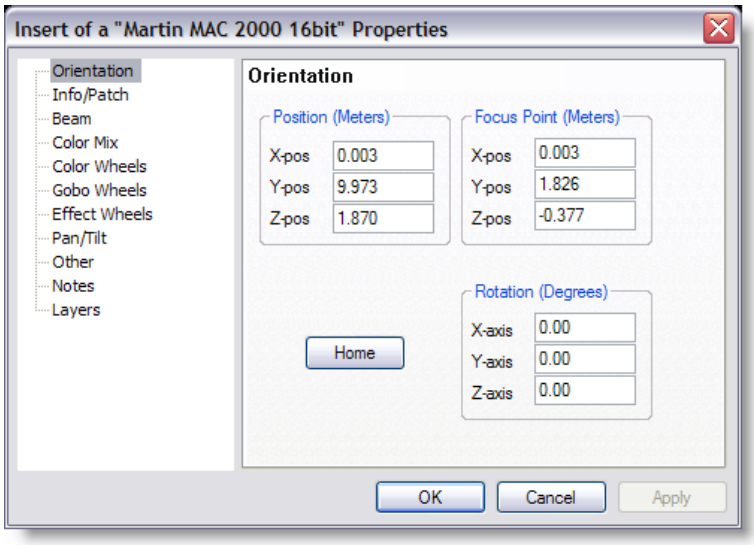
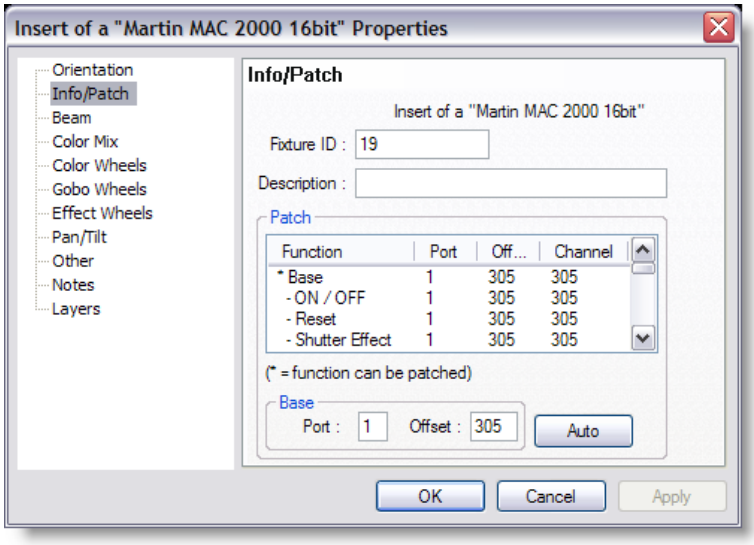


Info/Patch



Beam

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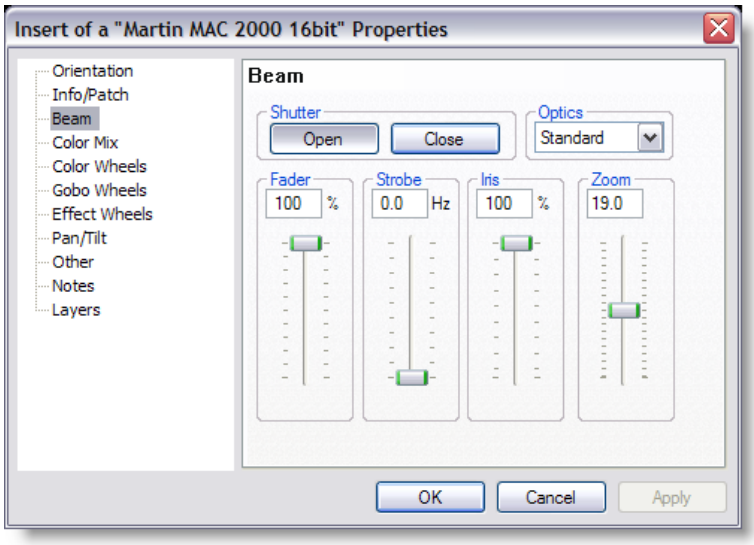
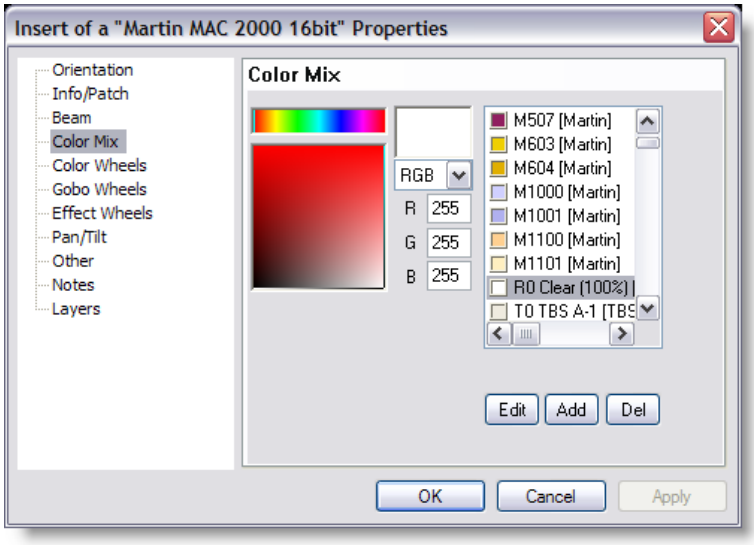
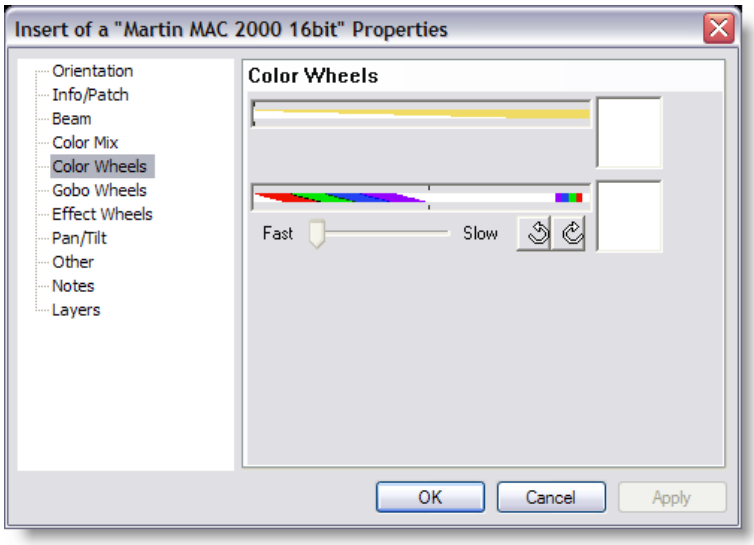


Color Mix



Color wheel



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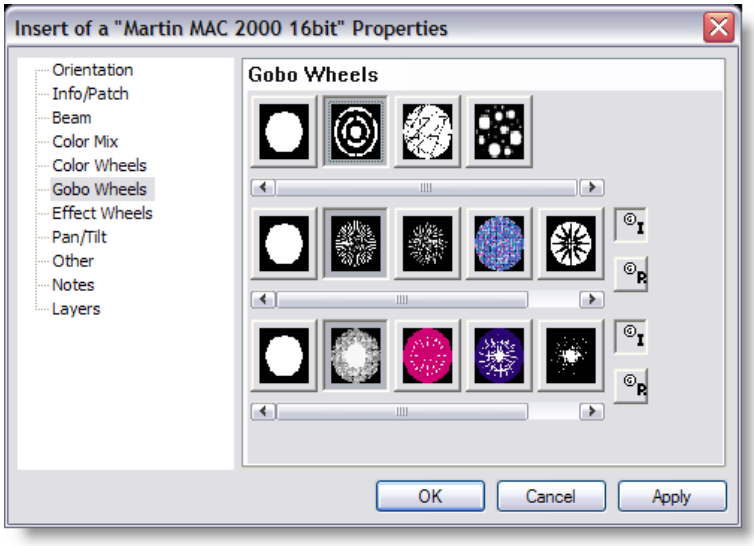
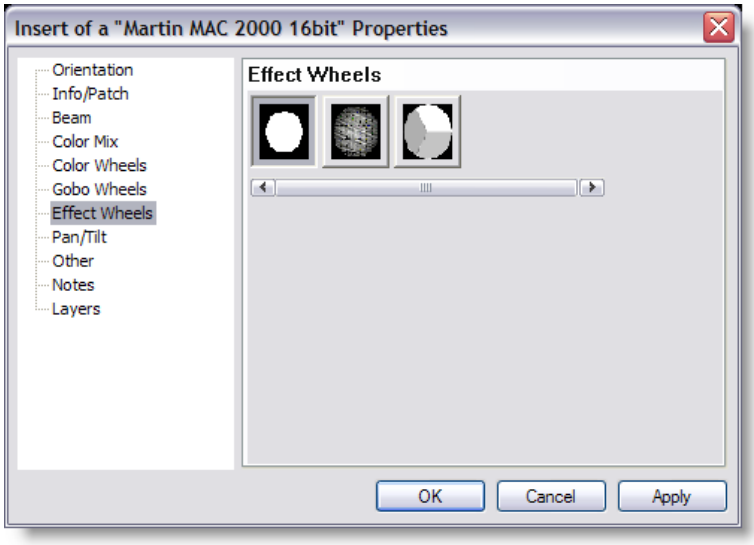
Gobo



Effect Wheel



Pan/Tilt movement

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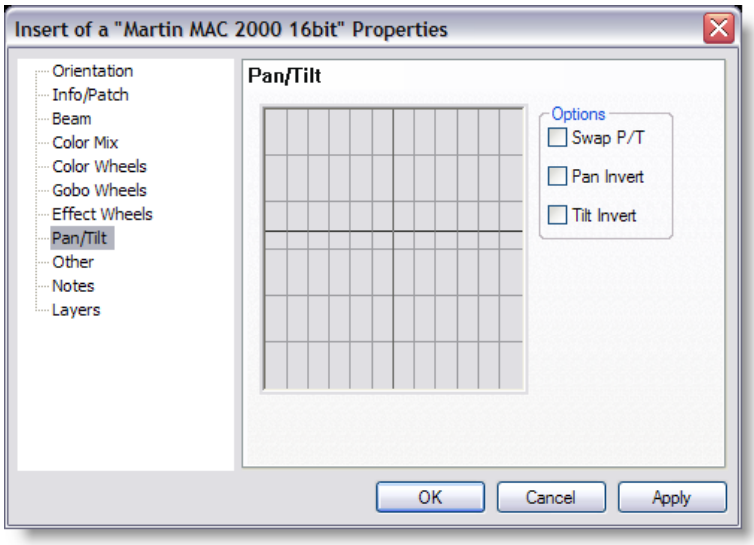
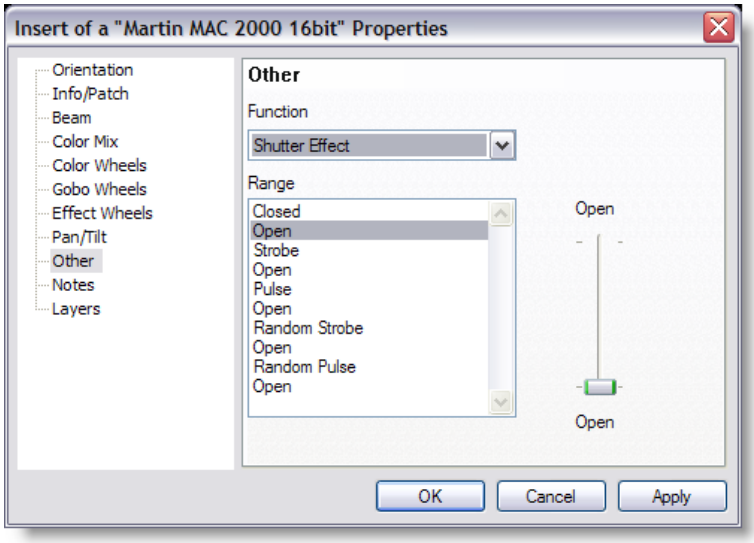
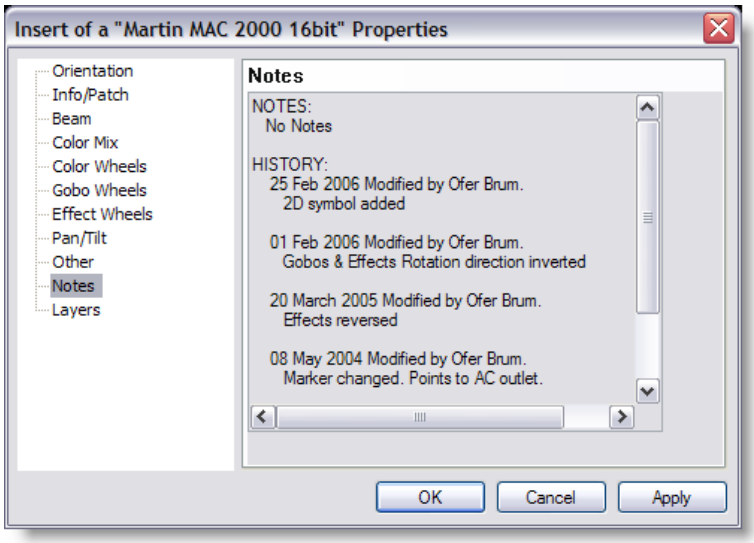


Other



Notes



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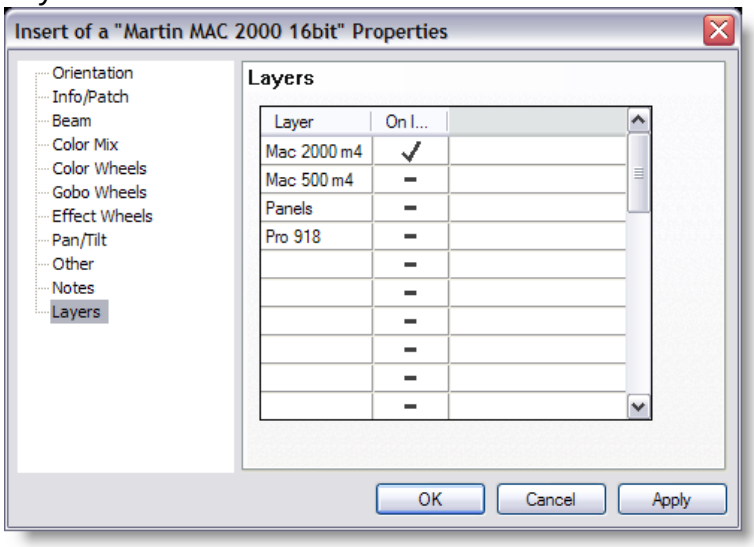
Layers



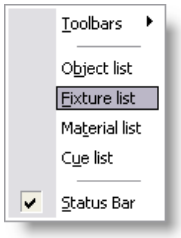
Tip: To deselect fixtures, so that you can change one fixture without effecting the rest, pick the fixture you don't want and press the "-" on the numeric keypad. Only the fixtures highlighted in green will be affected by the changes. To deselect all fixtures, press Shift & Escape.

3.7.5 Replacing one or many fixtures in a scene

It happen that one or many fixtures need to be replace from one type to another or simply replacing the same fixture type with a new version of its definition.

Here's how to do it!

In the ShowDesigner, from the menu View, click on the Fixture List item



In the fixture list, If the fixture does not exists, press Add to import a fixture definition.

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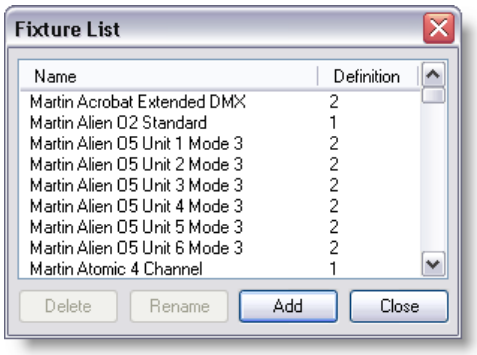
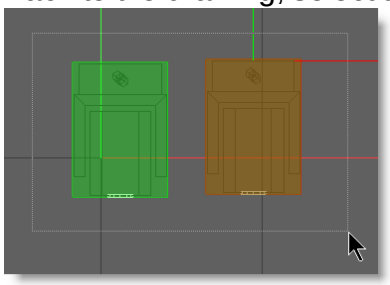
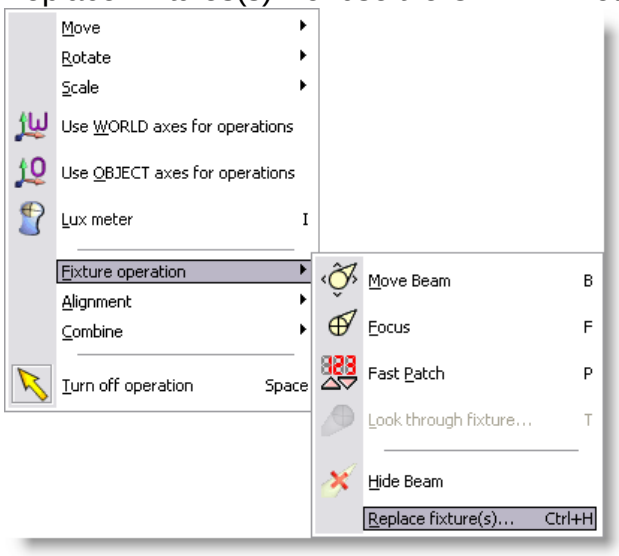

Fixture List
Name
Definition
Martin Acrobat Extended DMX 2
Martin Alien 02 Standard 1
Martin Alien 05 Unit 1 Mode 3 2
Martin Alien 05 Unit 2 Mode 3 2
Martin Alien 05 Unit 3 Mode 3 2
Martin Alien 05 Unit 4 Mode 3 2
Martin Alien 05 Unit 5 Mode 3 2
Martin Alien 05 Unit 6 Mode 3 2
Martin Atomic 4 Channel 1
Delete
Rename
Add
Close

Back to the drawing, select the fixture(s) to be replace.



Once all the fixtures are selected on the Operation menu, Fixture Operation and click on Replace Fixtures(s)... or use the CTRL+H hotkey



Select the new fixture and press OK

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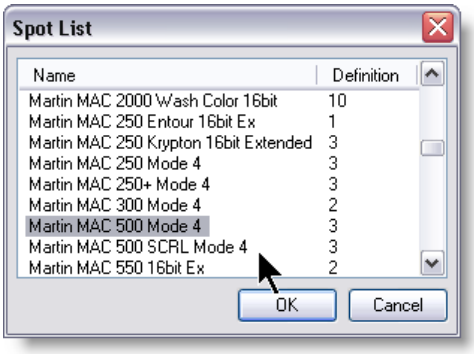
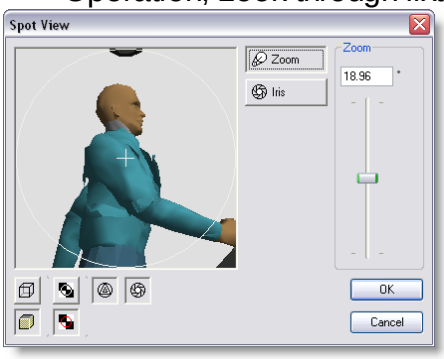

Spot List
Name
Definition
Martin MAC 2000 Wash Color 16bit 10
Martin MAC 250 Entour 16bit Ex 1
Martin MAC 250 Krypton 16bit Extended 3
Martin MAC 250 Mode 4 3
Martin MAC 250+ Mode 4 3
Martin MAC 300 Mode 4 2
Martin MAC 500 Mode 4 3
Martin MAC 500 SCRL Mode 4 3
Martin MAC 550 16bit Ex 2
OK
Cancel

There you go, the fixture are replaced...

Note: If the new fixture takes more dmx channels you will need to sort out the patch so the fixture fit..

3.7.6 Look Through Fixture

Operation, Look through fixture



Look through fixture
In the top left of this dialog, you see a view through the lens of the picked fixture onto the scene. The way the scene is displayed is controlled using the button (Wireframe) and the button (Solid) at the bottom left. Right next to those are two buttons which control the way the gobo and iris are drawn (if the fixture has a gobo and/or iris). When the top one (XOR) is selected, they will be drawn by inverting the background, when the bottom one (Color) is selected, they will be drawn using the fixture beam color (without taking into account the fader/shutter). Next to these two groups, there can be two buttons to select if the Gobo (if any) should be drawn ( ), and whether the Iris (if any) should be drawn ( ).
Right next to the preview window, there can be a number of controls, depending on the

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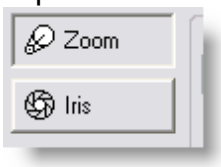
capabilities of the fixture, each having it's own button, for example:



Zoom, change the zoom angle.
Iris, change the iris.
Gobo index, change the gobo rotation index.
When you select such a function, the slider control right from the control buttons change accordingly, so that you can control the function.
You can also change the focus of the fixture by clicking in the preview window. If you click somewhere in the preview window, the fixture will change the focus to that point.

3.8 Objects

Object List

Importing Object

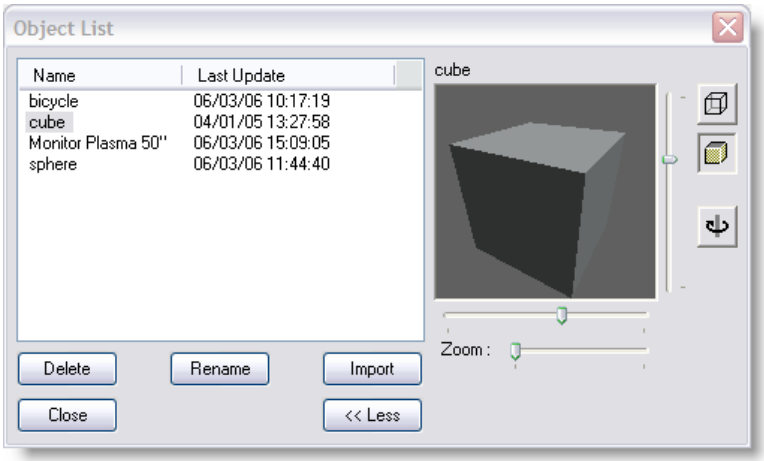
Inserting Object

Select and manipulate objects

Object Properties

Duplicate Objects or fixture

3.8.1 Object List



This list shows all the objects that are in this scene. To open this window you must select the object list menu item. In new scenes this list will be empty, the above example is taken from an existing scene. As you can see there are two objects used in the scene. The name of an object is in the first column and the second column of the list shows you

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when the object was last saved. At the bottom of the window are five buttons. The functions of these buttons are described below. At the top of the list you see a gray area with the text 'Name' and 'Last Update' in it, this is called the header. In the header you can also see two vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. All objects in this list can be inserted in the scene using the insert operation, which is activated by clicking the button.

- The **Delete** button:
  The delete button simply allows you to remove the selected object from the list. You will be asked to confirm this action. Deleting the object from the list will not affect any inserts of this object. You can however no longer insert this object in the scene.

- The **Rename** button:
  The rename button allows you the change the name of the selected object. After you have clicked on this button, a box will appear around the selected object. In this box you can type a new name. After you press the enter-key the object will be renamed. If the name you typed already exists in this scene you will see an error box and the rename operation is canceled.

- The **Import** button:
  The import button allows you the get objects from model libraries into this scene. You will be presented with the standard file open dialog box in the modellib directory. You can now select the library from which you want an object. After opening the library you will see a list of all objects in that library. You can now select one or more object(s) from this list and press the OK button. The object(s) you selected will be copied into this scene and they will be shown in this list. If one of the objects you selected has a name which is already used in this scene the new object will be renamed by adding a '.x' to the name, where the x represents a number starting from 1 and increasing until a name is found that is not used.

- The **Close** button :
  The close button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. This window can be opened again by selecting the 'Object list' menu item in the 'View' menu.

- The **<< Less / More >>** button :
  The Object List has a preview mode, which can be (de)activated by the '<< Less' button and the 'More >>' button. If the preview mode is activated, the preview will be updated about a second after you select an object in the list. You can view the

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object in the display modes Wireframe ( ) or Solid ( ), adjust the pan and tilt of the object with the vertical and horizontal sliders next to the preview window, and the zoom by the bottom slider. You can also 'inspect' the object by clicking the inspect button ( ). This will make the object spin around the vertical (y-)axis. In this mode, the horizontal slider below the preview window enables you to control the rotation speed.

Note: Objects can be previewed, zoom in-out, and move around.
Preview are 3D so they are generated every time you select an objects.
When working with large objects, it maybe be necessary to turn the preview off
{<<LESS]

Once an object is imported in a scene, it can be use as many times as needed in the scene.
If the object is modified in by opening the scene in the Modeler, all instances of that object use in the scene will be modified.
However, if the object is modified in the library where it was imported from, it will not affect the objects on the scene.

If the objects is deleted from the Objects List, the object in the scene will remain.
Actually, when deleting an object for the list, the object still remains on the scene but is simply hidden from the Object List.
See Scene Compactor for detail on how to permanently delete an object from scene.

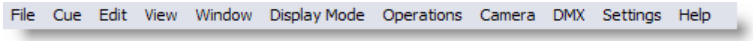
3.8.2 Importing Objects in a Scene

When starting a new scene, object list is empty.
Importing objects in a scene is like choosing all the necessary objects that will bee needed to build the scene.
Example, trussing, stage, riser, musical instrument, curtains....

Note: Fixtures are imported separately from the Fixture List

To import objects, follow these steps

From the **View** menu select **Object list**



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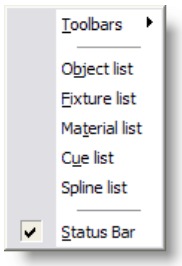
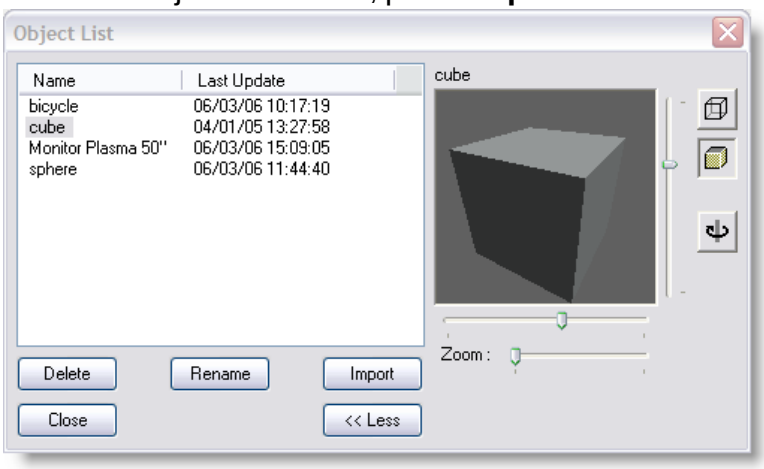
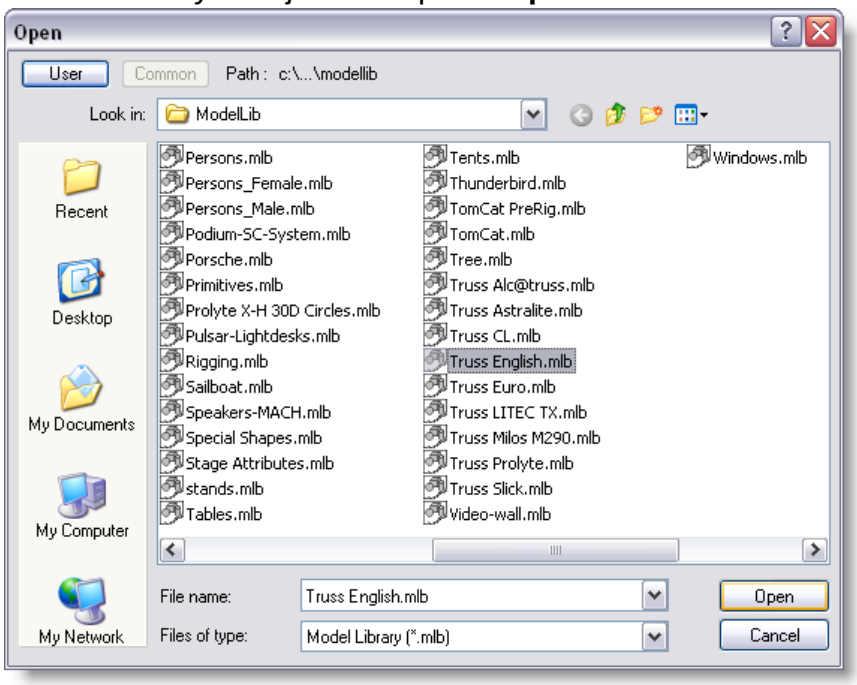


From the Object list control, press **Import**



Select a library of objects and press **Open**



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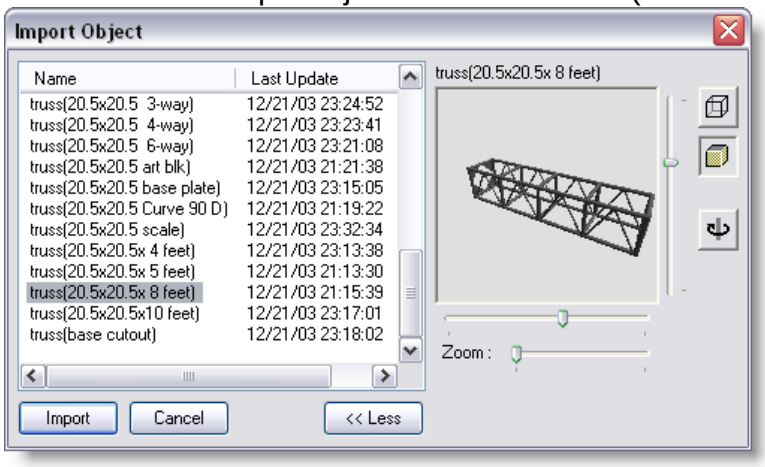
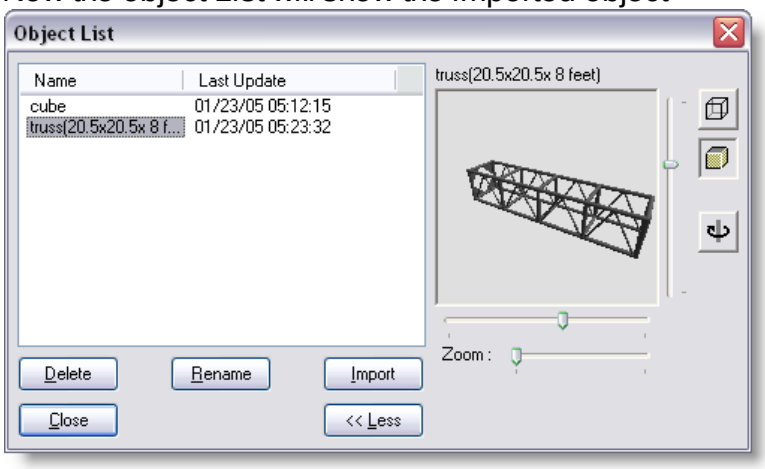
Select one or multiple objects from the left list (Use CTRL or Shift for multiple selection)



Press **Import** when your selection is done

Now the object List will show the imported object



3.8.3 Inserting Object in a Scene

See Importing Object in a scene first

You can now insert your object in the space.

- Click on the Insert button.
- Click on one of the views this will be the insert point on the object
- This should bring up a menu showing all objects imported in the scene

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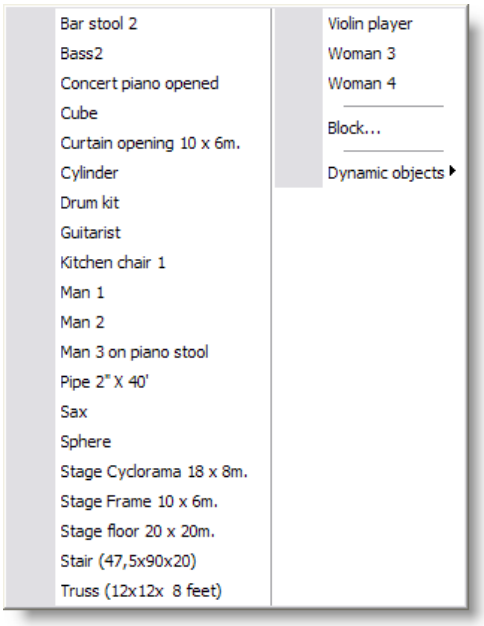

Click on an object in the menu.

The object is now place on the scene.

Tips: When inserting an object from the top view, the insert point of the object will be place on the 0 of the Y axis
So if you want to import a fixture or object for a pipe placed at 12 meters from the ground, insert it in the side view by clicking at the pipe level.
No the object or fixture will be inserted close to its final height and in the center (0) of the X axis.

3.8.4 Select and manipulate object

you can position it the

· Select the move button (or press hotkey M) and position the Mac on top of a truss.
You will notice the Mac is rigged pointing down to the floor; you probably want to rig it facing up to the ceiling.

· Select the fixture, right click and open the properties menu.

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- Under the Rotation section, change Z-axis to 180°
- Click Ok.

You can now duplicate the fixture and place the second on top of the other truss.

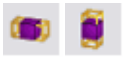
Tip: MSD will load the Martin list of fixtures for you. If you want to load other manufacturer's fixtures, select the Fixture list under the view menu. Click on Add to add fixtures to the list.

You have now completed construction of your scene.

Tip: Magic Alt key. The Alt key is one of the most useful keys in MSD. Press & hold it before clicking on any object on the screen and MSD will keep the last item you selected active, without selecting anything else. This is a very useful tool when you have multiple objects and lights side by side or piled on top of each other.

Resizing an object

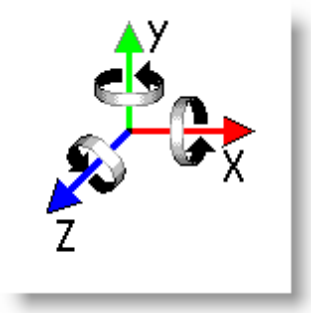
You can adjust the size of an object very precisely by going into its properties, (Alt + Enter). However if you wish to roughly resize something or match its size to another object, then you can use the scaling controls.

The Scale Horizontal and Vertical buttons will allow you to use the mouse to manually resize and object in one direction only. 

The Scale button allows you to resize in two directions at the same time.

The Scale XYZ button is for use on 3D windows and can be used to adjust the size of an object in all 3 dimensions at the same time.

Rotating an object



You can through all three axis. To set an object to a precise rotation, click on the object and press Alt + Enter.

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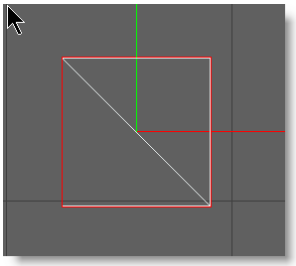
I quick way to rotate an object is to use the rotate function buttons and the mouse.
The hotkey R will set the rotate around depth axis on for you.
You will notice when you rotate an object using the mouse that it snaps to certain angles, much like the magnetic snap system does. The default settings for this snapping action is to snap to every 15º when it is within 5º. This means that the object will snap to a 15º angle whenever it gets within 5º of that angle. You can change these settings and turn them off from the same place you set up the magnetic snap function, (Settings menu, Preferences, Snap page).

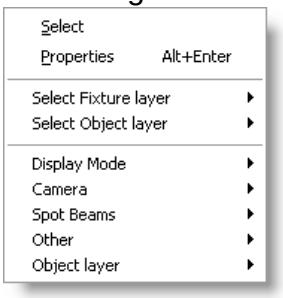
3.8.5 Changing Object Properties

Changing an object's properties
Example: To change a cube into a stage.

- Pick the cube by left clicking on it. It should appear red.



- Right click on the cube, to bring up an options menu.



- Click on 'Properties'
- This will bring up the Properties menu for the cube.

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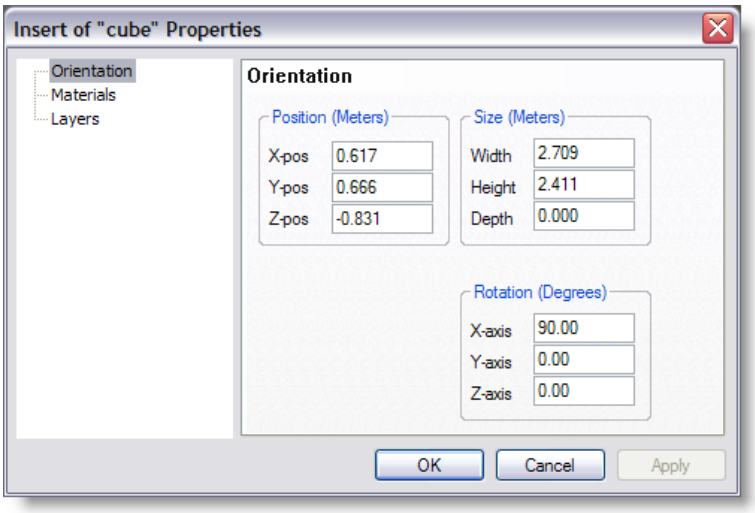

- Set the desired size
- Click Ok when you have finished.

Now we have a stage, we need to put it into position.

- Click on the Move Vertical button.
- Now click and drag the stage.
- Move the stage until its base is level with the red line in the center of the screen.

You can use the Move Horizontal button if you want to move it side to side.

Or you can just use the 'Move' button and move it in any direction you like.

Now insert the person from your object list and place him or her on the center of the stage.
In order to know exactly where you person is, you are going to have to view your stage from different angles.

3.8.6 Duplicate Object or Fixture

Is is possible to duplicate an instance of an object multiple time

After inserting an object on the scene and having position it is possible to duplicate this object without having to re-insert it.

Pick the object to be duplicated

Press the duplicate button or use the hotkey ALT+D
Click a 2D view approximately where the object should be place

Tip, it's often easier to use a top view to duplicate objects.

Multiple Duplication

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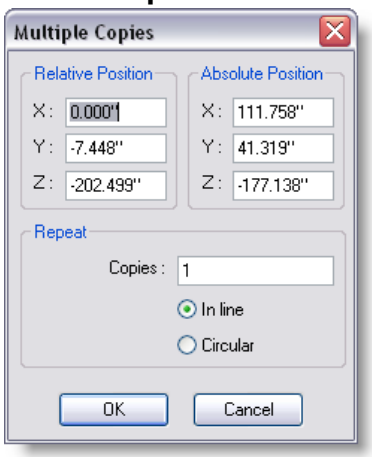
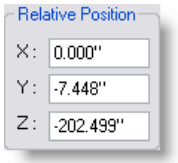
There are two ways you can duplicate multiple objects, in a line or in a circle.

Linear duplication

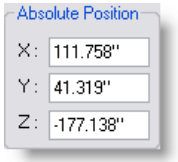


Pick the object you want to duplicate
Click on the Duplicate Multiple button
Click in the space where you want your first copy to appear
A window will now appear.

In this window you have three settings you can use, the relative position, the absolute position and the number of copies. The number of copies setting is straight forward, type in the number of additional copies you want, don't forget you already have one object in your scene. You then need to decide where you want these copies to go. You can set the relative position OR the absolute position, not both!



The relative position uses the object you are copying as the start point. So if you wanted your copies to be in a straight horizontal line from the first then you could set the relative position to X=5m, Y=0, Z=0. This will put your copies in a line along the X axis with a spacing of 5m between each one.



The absolute position will place your first copy at a position relative to the zero point of the scene. This allows you to decide a precise position for your first copy. The second copy will then appear the same distance from your first copy and the first copy is from the original, therefore creating a line.

Example:
If you have a primitive on position (-0.5, 0.15, 0.0), you can set the first copy 1.0 meter to the right (relative) or set it on position (0.5, 0.15, 0.0) (absolute). All other copies will be

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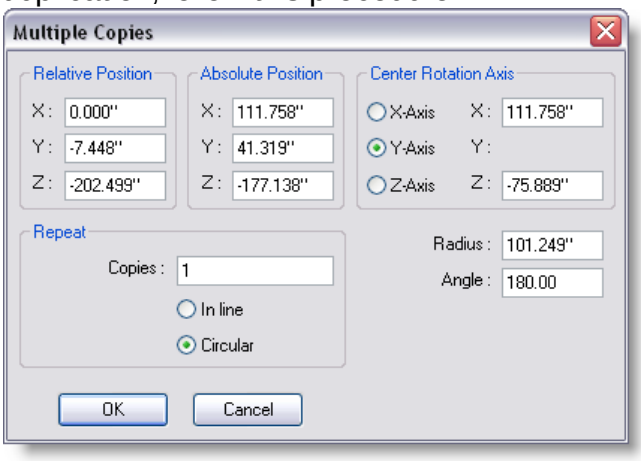
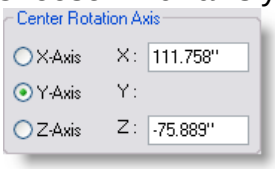
positioned relative to the previous copy in the same way as the first copy is positioned relative to the original. What this means is that in the previous example, the second copy would be on position (1.5, 0.15, 0.0), so 1.0 meter to the right from the first copy.

Circular duplication

In the Duplicate Multiple window you have an option under the number of copies box to set it to circular.
When you click on circular, you gain extra options on this window. To set up the circular duplication, follow this procedure:

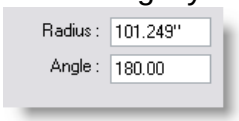


Choose which axis you want to rotate around, X, Y or Z.

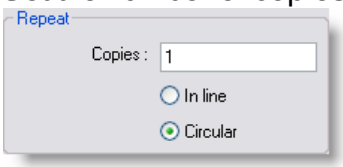


Set the center point of your circle using the remaining two axis.

Set the Angle you want between in each copy.



Set the number of copies



Click OK.

The radius of the circle is automatically defined by the distance between your center

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point and the position of the original object. If you want to define the radius instead, simply type in the radius box instead of the axis boxes.

Example
If you want to create winding (spiral) stairs, start with a single plank (cube), position it on position it on (-0.5, 0.15, 0.0) and size if to (1.0, 0.01, 0.1).
Now you create the staircase by specifying the Y-axis to rotate around, position the axis on X: 0.0 and Z: 0.0.
Enter 0.15 in de Y part of the relative position (each plank should be 0.15 higher than the previous one).
Enter and angle of 30.0 (each plank should rotate 30 degrees around the rotation axis), and specify 11 Copies (1 original + 11 copies = 12 times 30 degrees is 360 degrees) for a full circle.

Example to have 12 fixtures in a circular shape.
1. Insert one fixture to your MSD scene
2. Select the 'Multiple Duplicate' option
3. Click the 'Circular' button.
4. In the 'Copies' dialogue set 11 (for a total of 12 fixtures)
5. In the 'Angle' field set 30 degrees spacing (360 divide by 12)
6. In the 'Radius' field set 2m (for 4m centers circle), or whatever radius that serves your needs.
7. Click OK

3.8.7 Aling objects or fixtures

Operation | Alignment | Align Chain
This option allows you to align two or more selected objects in a chain like way. The selection order for this align operation is very important.
The object that is first selected will stay where it is, so you first have to make sure that this object is in the right place.
The second selected object will be aligned to the first one, the third selected object to the second and so on.
There are several ways that two objects can be aligned. The one that will be used is the same as the one that is default calculated for a normal align operation (see 'Operation | Align' for more information on the different align possibilities.)

Operation | Alignment | Align...

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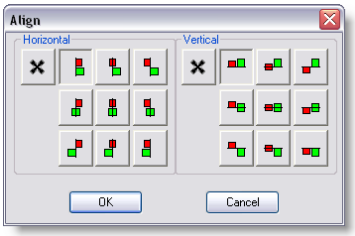

In this dialog, the green square represents the selected object(s), and the red square the active object. The 'Align' operation will not move the active (picked) object. It will align the selected object (s) to the active object. You can align the objects horizontally and/or vertically. Horizontally you can align the left, center and right. Vertically you can align the top, center and bottom. Default, the program will make a guess how you want to align the objects. It does this by comparing the distances between the active object and the first selected object. Horizontally, it will compare the distances left-left, left-center, left-right, center-left, center-center, center-right, right-left, right-center and right-right, and chooses the minimal distance. It does this again for the vertical alignment. These default horizontal and vertical alignments are visible as the two pushed down buttons. You can always select another (or no) alignment by pushing down the desired alignment button.
Example:
Say you have an object with a pipe hanging 2 meters of the floor. You roughly place a number of curtains hanging below the pipe. You can now select the curtains and then pick the pipe. When you now select the 'Align' operation, and push down the button for no horizontal alignment, and the button for vertical alignment, it will snap the top of all the selected curtains to the bottom of the active pipe.

3.9 Grouping objects and fixtures

Grouping allows to takes several objects and combined them as one object to pick

MSD has different grouping method

Group
Group using Axis
Assembly
Subtract
Intersect

3.9.1 Group

A group is multiple objects combined together to create a single object to manipulate.

Once group, objects within a group can't be single pick.

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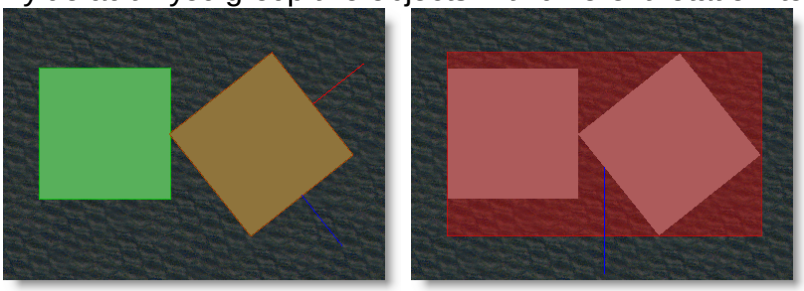
Here's how to group objects

- Select multiple objects
- Now press the Group button.

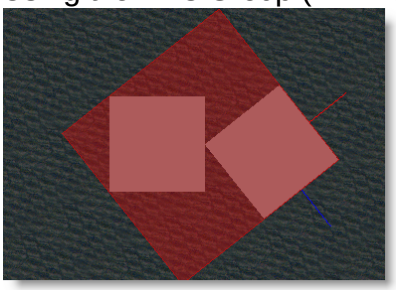
You have now grouped the two pieces into one object.

It is also possible to group objects with an alternative axis.
What does that mean?
By default if you group two objects with different rotation together it would look like this:



Note that the angled cube is picked but the final axis for the group is the default system axis.

Using the Axis Group (ALT+G) or the result would be like this:



As you can see the axis is now the cube that was picked before grouping.

Another use of the Group axis is to change the rotation axis of an object.
By default to rotation axis of an object depend where the 0,0,0 point was when it was created in the Modeler.
If you need to change that, you can combine a small object (almost none visible) to a bigger object and use that small object as axis.
Example

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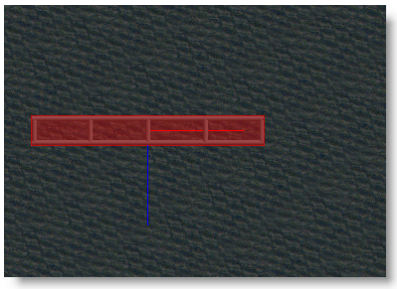
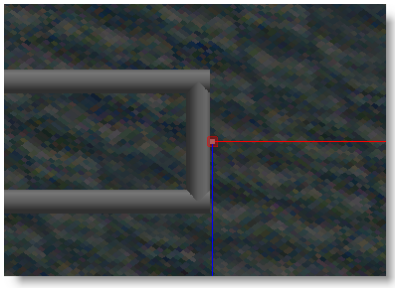
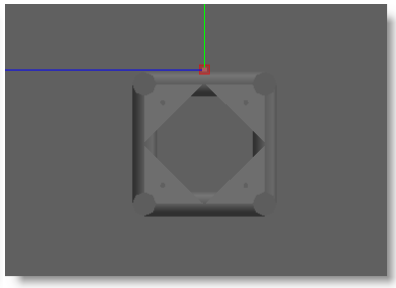
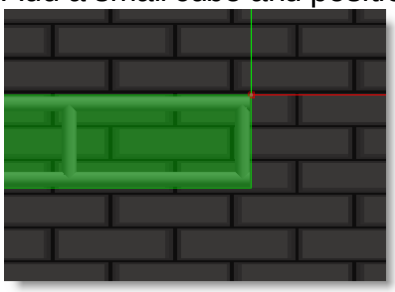
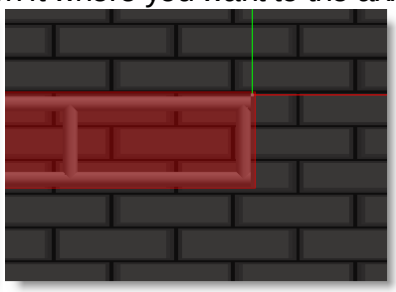


This piece of truss as it's default axis to the center of all axis.

Add a small cube and position it where you want to the axis to be.

Select the Truss and then the cube (must be red), and press the Group Axis icon or ALT+G.

To group fixtures and object together while leaving each fixtures accessible as single pick, see Assembly

3.9.2 Assembly

Assembly grouping is similar to normal grouping except that fixtures in the group are still accessible individually.

A good example of an assembly would be a bar of 4 PARs

Example
Place 4 PAR 64 in a row
and one pipe (made with cylinder primitive)

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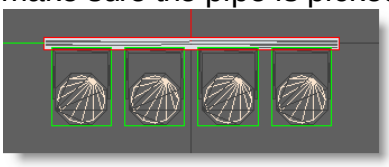
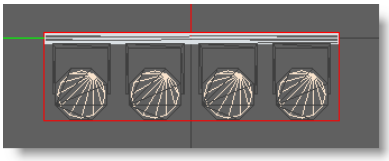
Select all 4 Pars and the pipe
make sure the pipe is picked (red) this will be the main part of the assembly

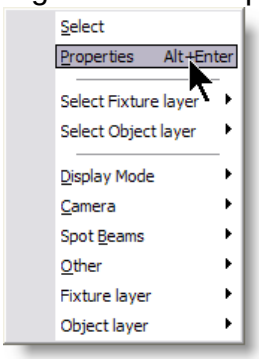


Click the Assemble icon (or CTRL+G)

And the result should look like this.



Right-click on the pipe and choose properties



In the Properties select Assembly Options

-Locked

When locked is enabled, no settings changes will be allowed for that assembly

-Allow Move

The child objects of the assembly will (not) move away from the main part.

-Allow Rotate

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The child objects of the assembly will (not) rotate on the main part.

-Allow Scale

The child objects of the assembly will (not) scale one the main part.

-Allow Focus

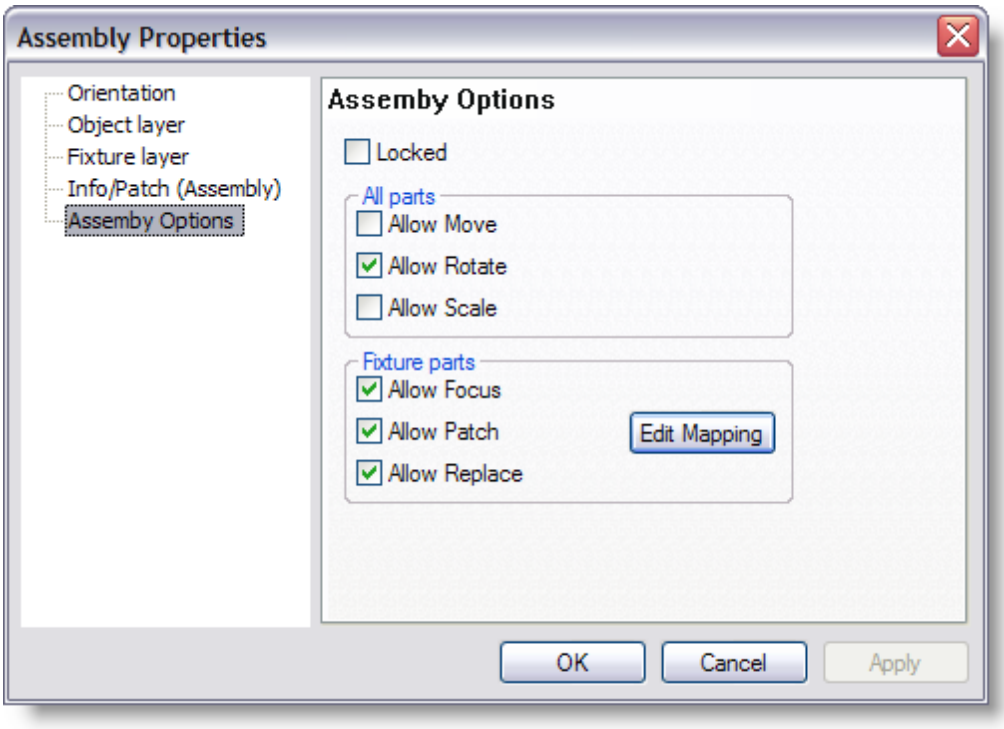
The child fixture objects of the assembly will (not) focus when using the focus tools (example, a blinder fixture, each source is fix in the casing)

-Allow Patch

The child fixture objects of the assembly will (not) be available for individual patch (example, a Bar of 6 PAR in series, only one address to set on the main part of the assembly)

-Allow Replace

The child fixture objects of the assembly will (not) be available for replacing



Edit Mapping

Some fixtures assembly used multiple Base address
In such case you can define segments to use as base and connect each part of the fixture assembly to a base

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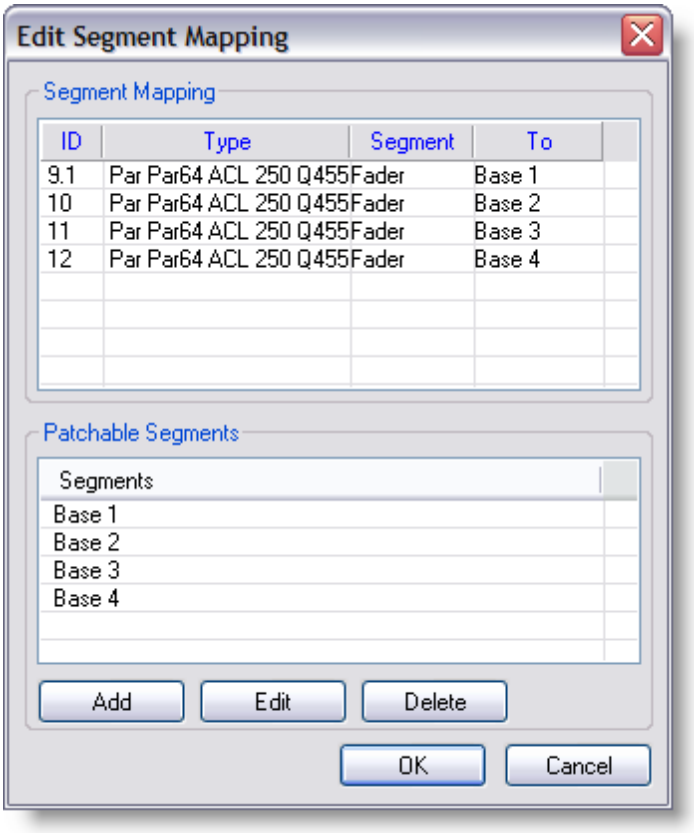

3.9.3 Subtractive Grouping

Much like intersect grouping, subtractive grouping requires you to have multiple objects overlapping each other.

When you come to press the subtractive group button it will remove all the objects from the last object you had picked, i.e. the object highlighted in red. This will result in creating holes in your last object in the shape of the objects you have removed. Again this function only shows up when you rendering the scene.

Before Subtraction

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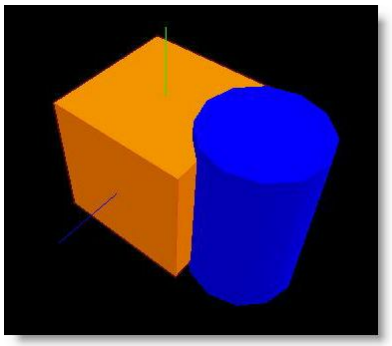
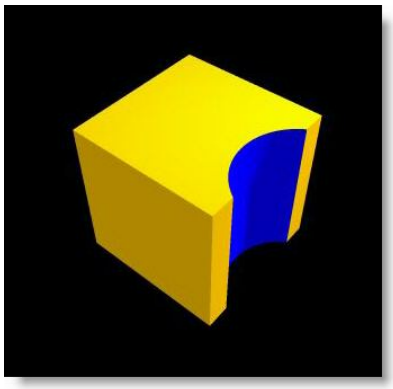


After Subtraction



3.9.4 Intersect Grouping

Intersect Grouping

There are other ways of grouping objects together, other than grouping them into one object. The intersect group function allows you to create a new object out of two or more objects. To use the function, you need to put two or more objects in a position where they over lap each other. Then select all the objects, (pick them and press the '+' key or use the rubber band function on the mouse). Then press the group intersect button. You will now be left with an object that only exists where all the objects you've used overlap each other.

This function is only visible when you render the scene!

Before Intersection

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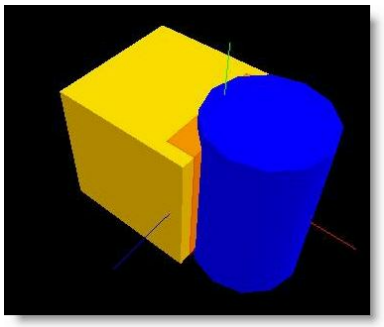
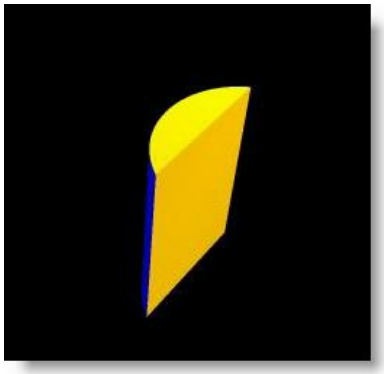


After Intersection



3.10 Fixture Block

A fixture block is a special files that can be create by grouping fixture(s) and object(s) together.

Use a fixture block to save a group of fixture/object that is used often in the same configuration.
Some examples:
-Bar of 6 PAR 64
-Bar of 4 ACL
-9-lites Blinder
-Bar of 6 on a stand
Etc...

The Fixture is similar to the scene block except that it is handle as a fixture once imported in a scene.
The fixture address and ID will behave like a normal fixture.

Creating a fixture block

Inserting a fixture block

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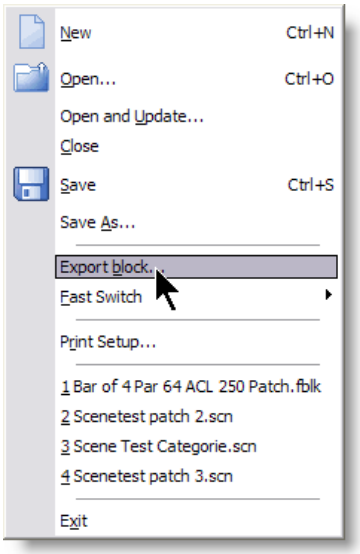
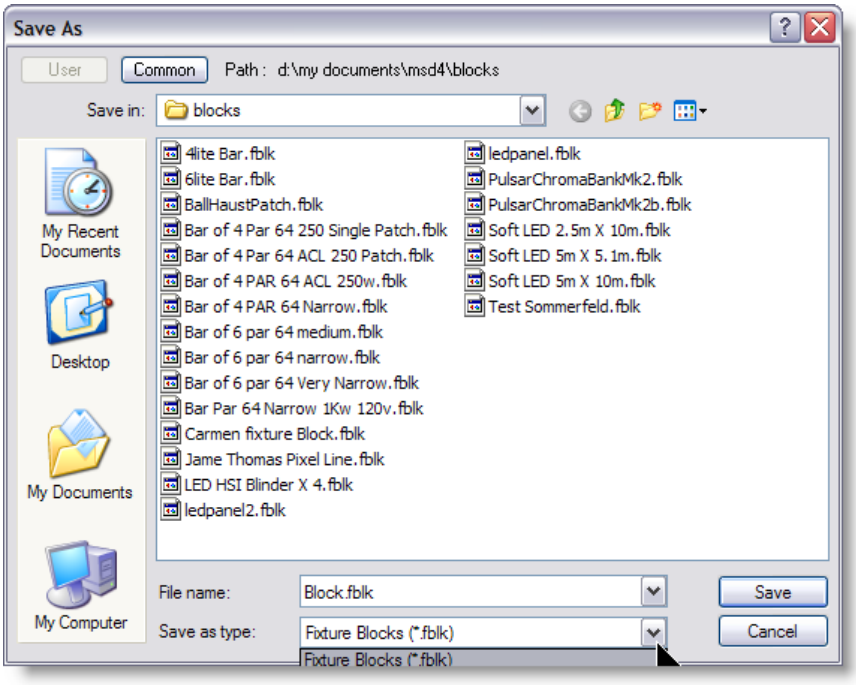
3.10.1 Creating a fixture block

First, create an assembly with the fixtures and objects

From the File menu click on Export Block...



Give a name to the block.



Make sure the Fixture Block Extension is selected.

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Click on Save.

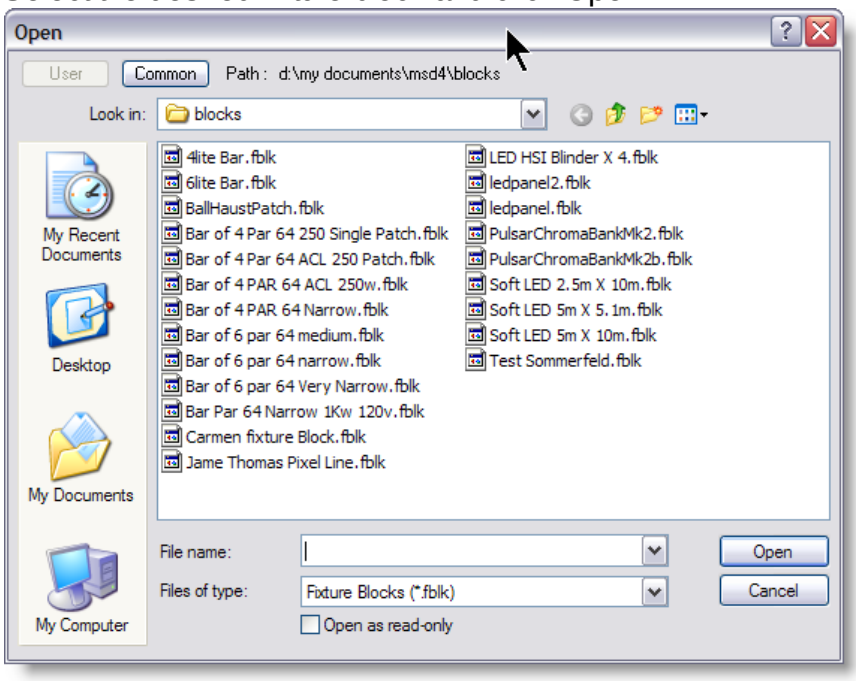
3.10.2 Inserting a fixture block in a scene

To insert a saved fixture block in a scene

Click on the Insert fixture icon

Then click on the scene and from the popup menu click on Block...

Select the desired fixture block and click Open.



Address behaviours

When inserting a fixture block, the fixture address will behave as follow:
-If all fixtures have the same address in the fixture block, they will have the same address in the scene
Some examples:

-If four PAR were address as 1 when the fixture block was created, when inserted the

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MSD will find the
next address available. if that address is 54, then all 4 PAR will be address as 54.

-If the same fixtures were address as 1,2,3,4, in the same situation the address would then be 54,55,56,57

-If the addresses are 10,12,14,16, in the same situation the address would then be 54,56,58,60

Fixture ID behaviours

ID's behaves in the same way as the addressed.

Note: you can use ID with decimal values (Dot ID) such as 1.1, 1.2, 1.3, 1.4
The Dot ID makes it very useful for fixture blocks.

3.11 Scene Block

A scene block is like a fixture block except it doesn't modify the fixture ID or address.
Use the Scene block to export a part of a scene to import it later into another scene.
Scene block can be exploded (ungrouped)

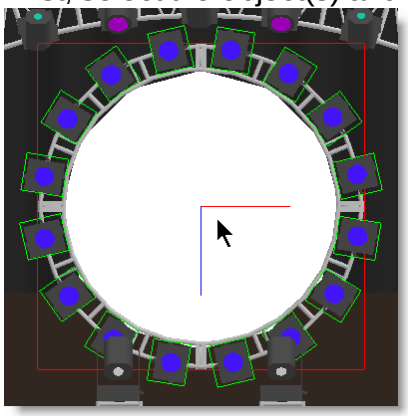
Creating a Scene Block

Inserting a Scene block

3.11.1 Creating a scene block

Creating a scene block in MSD is very simple

First, select the object(s) and fixture(s) to be exported as scene block



From the File menu select Export Block

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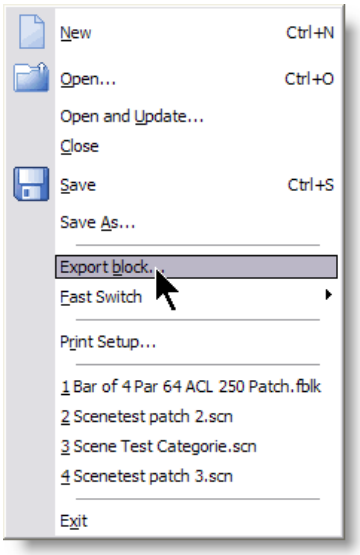
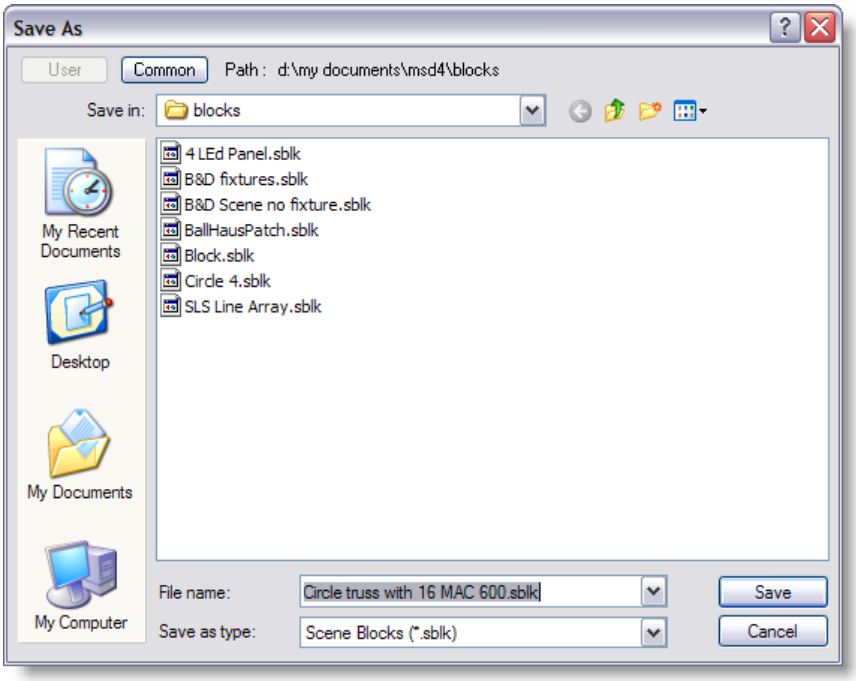


As Save As window will open
Give it a name...



Make sure the SBLK extension is selected

Click Save.

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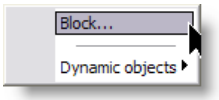
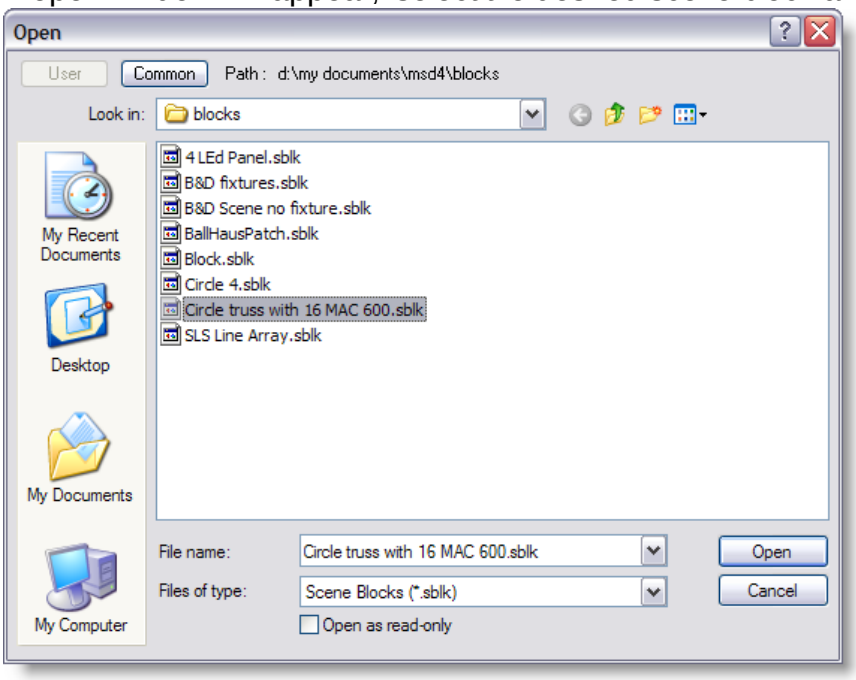
3.11.2 Inserting a scene block in a scene

To insert a Scene Block into a scene, press the Insert Icon

Click on a view, a menu will appear with all objects used in the scene and also a menu item called Block..., click on it



A open window will appear, select the desired scene block and click Open



If the scene block contains fixture a prompt will ask if you want the ID to remain the same as in the block or not.

There you go, a scene block is inserted.

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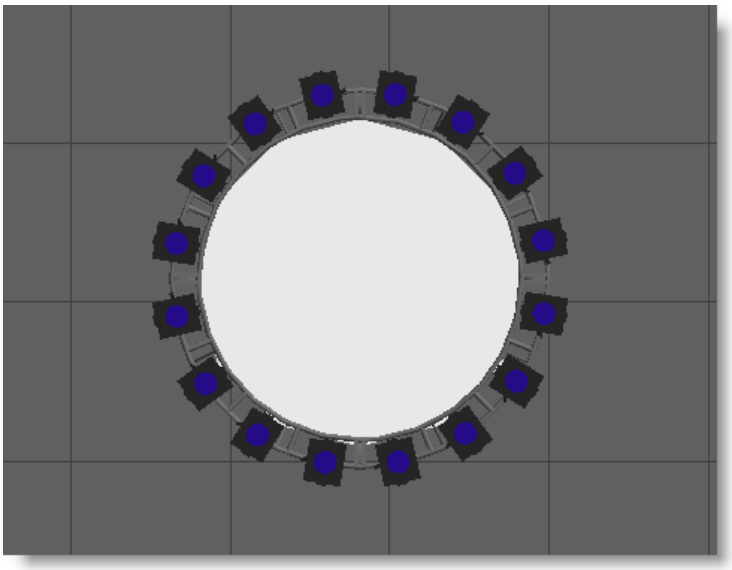

3.12 Dynamic Objects

Dynamic Objects are special object that can be use in a scene to animate other objects.

See how to insert Dynamic Objects in a scene

Dynamic Objects have a 'base', a 'connector' and sometimes some other objects.
As example the Hoist has a motor (base), 'hook' (connector) and a 'chain' (extra)

The base is the motor, and it can be treated as any object to move etc.
Also, the base has property pages (context menu) to patch the object to a motor, and if required can be attach to a DMX channel.
It also contains a property page to set the dynamic parameters (for the hoist, length, min length, max length, and a virtual zero point for adjustment between the length value in the motor buffer and the length of the actual chain.

The connector is the hook, and it can be treated (limited) as an object as well.
In the hoist, it can be used to move the hook up and down, and with it, every thing attached to it, without moving the motor. So you are basically setting the dynamic parameter, the length of the chain.
To attach objects to the dynamic object, select them, and then pick the connector (hook), and go to the menu 'Operations', 'Combine', 'Connect'.
(Connect is a new operation to work with the dynamic objects. They work similar to the assembly).

For the new Dynamic objects, select the insert object operation, and you will find a 'Dynamic objects' menu,
containing the 5 different type of Dynamic Objects.

- Hoist
- Hoist Platform
- Rotator

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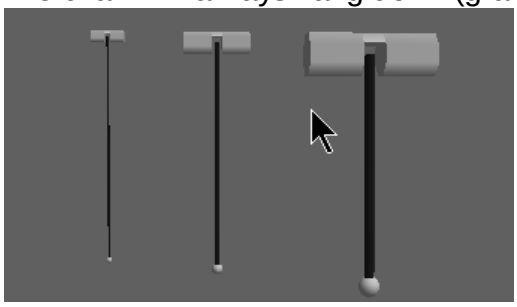
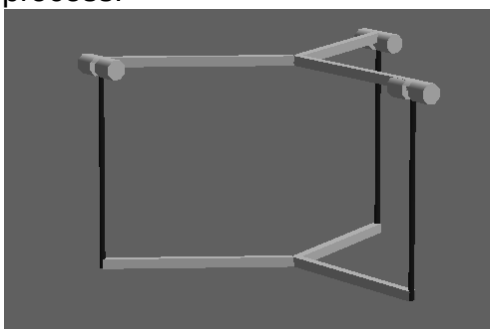
- Scaler
- Track

Each of the type have different models.

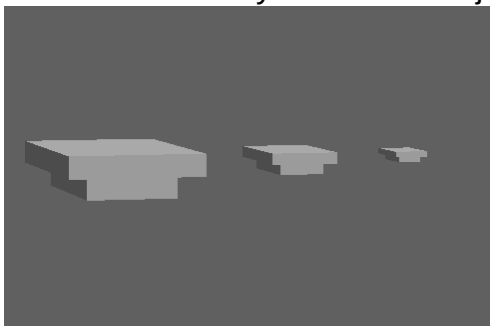
Hoist
single hoist, where you can attach other objects for moving up and down.
The chain will always hang down (gravity...)



Hoist Platform
The default settings for a Hoist Platform has 3 hoists, but it can changed in the properties. The platform will approximate a real platform. (Example a circular truss with 3 hoist)
The 'arms' to the motors and the hooks are virtual, meaning that they don't render, and don't show up in the Visualizer. they are only use a design time to facilitate the creation process.



Rotator
Rotate around the y-axis. virtual object.



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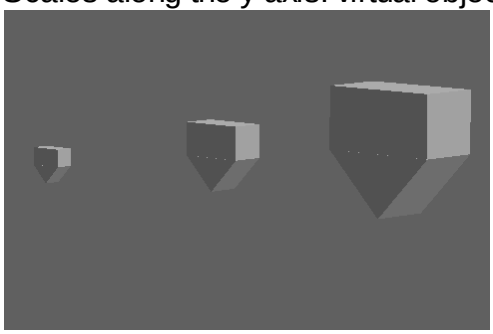
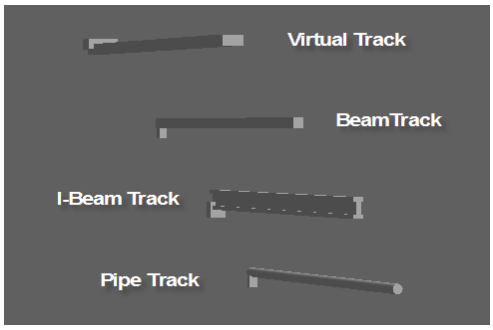
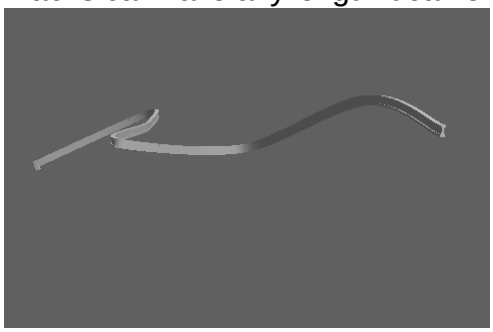
Scaler
Scales along the y-axis. virtual object.



Track
A track to move along. The virtual is a virtual objects, the others are real objects (render/ Visualizer)
You can modify the track using the spline list, which each track has automatically



Tracks can have any length it can even be shapes and curves using the SPLINE.



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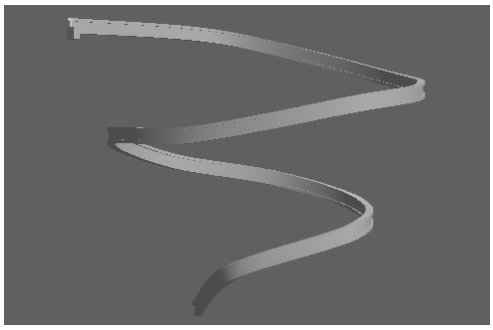
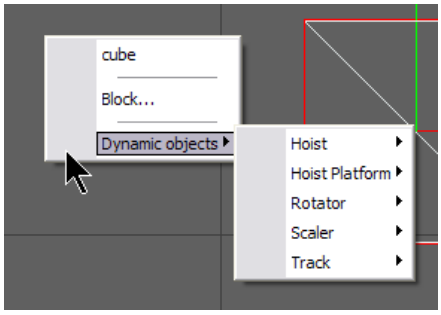
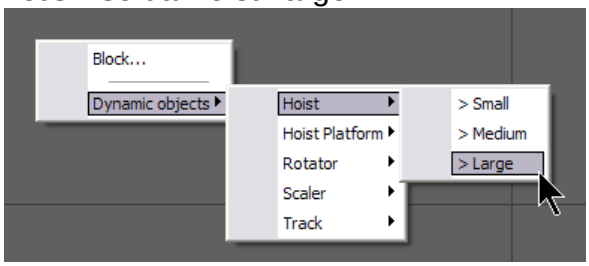


3.12.1 How to use Dynamic Object in a Scene

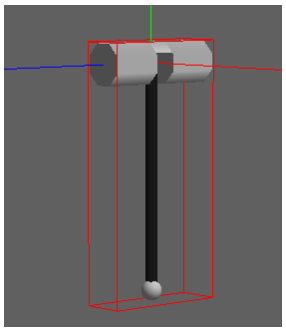
Here's how to insert and use a Hoist on a scene



Let's insert a Hoist Large



You should see something like this is the 3D view



You can take control of the chain length by picking the hook

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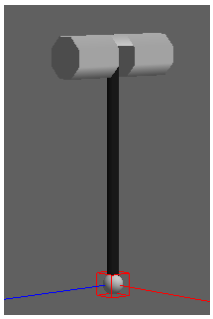
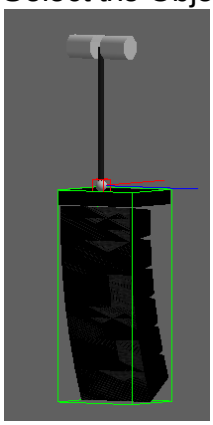
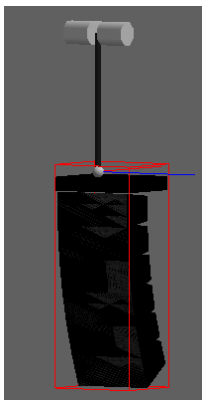


Insert an object to attach to Hoist and position it under the Hook
Select the Object and pick the Hook



Press the "Attach" Icon on the Toolbar
or from the menu Operation>Combine click on Attach



The Hoist is now controlling the height of the object.

Click on the Motor of the hoist and then right-click on it and choose Properties

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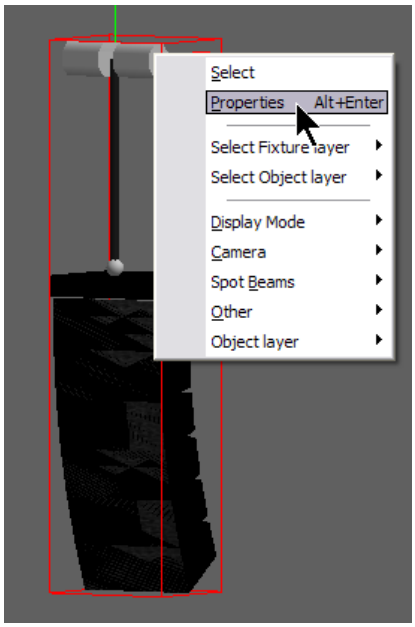
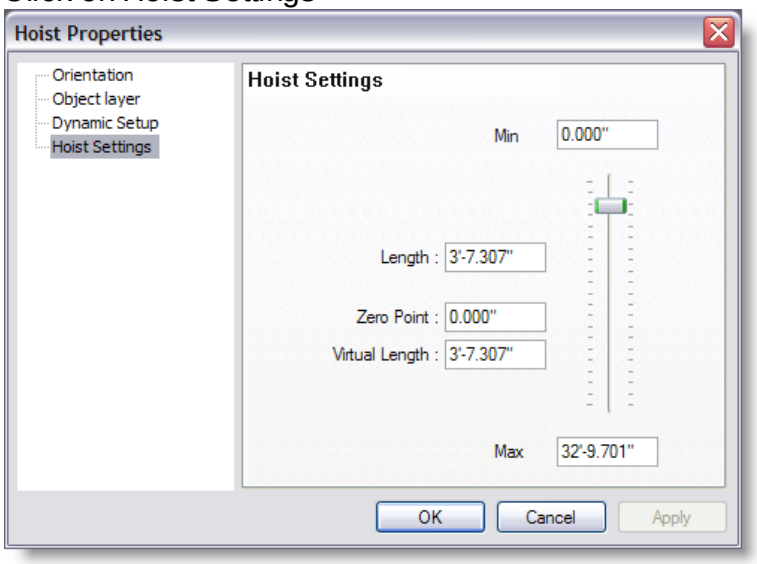


The Hoist Properties will open.
Click on Hoist Settings



Length: Here you can set the length of the chain.

Zero Point: Is the default value of a zero, example, for a rig to have all trusses at the same height but the motors are not all at the same height.

Virtual Length: This is the current value according to the Zero Point.

Example,
The Length is 18,
The Zero Point is 3

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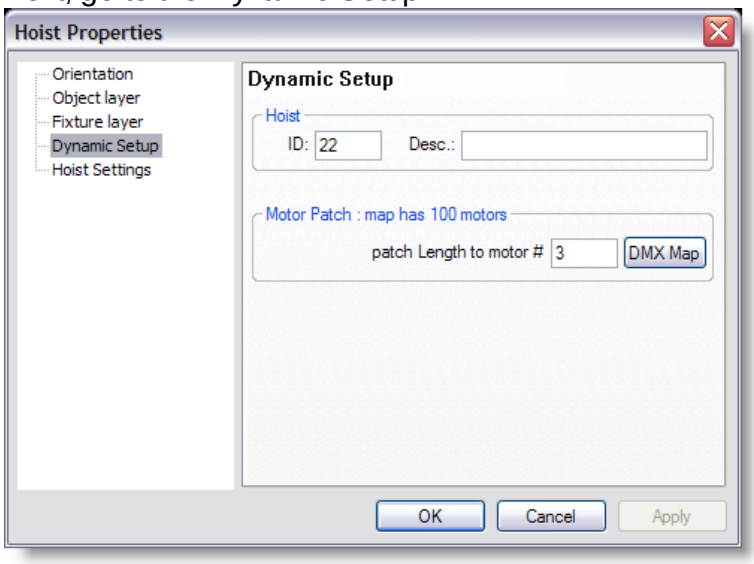
The position is at the maximum length.

the Virtual Length will be 7

Next, go to the Dynamic Setup



In the Dynamic Setup you can give the Hoist an ID and a Description of your own reference.

The Motor Patch is use to assign the control to a motor control.
Press the DMX Map to assign the motor control to a DMX address for simulation control.
See DMX for more details

Note: Is is possible to have an external motor control to communicate with MSD for more information contact Lighthouse

3.13 Materials and Textures

A material is a color or texture which you can apply to the surface of any object. There are several different ways you can use and manipulate a texture and it can get very complex. The best way to use a material is to think of it as an example of what you object is going to look like, rather than spending hours perfecting it.

Creating a simple material
Just like Objects, you need to create a list of materials you are going to use, before you apply them. You will find the Materials list in the same place as the Object list, under the view menu.

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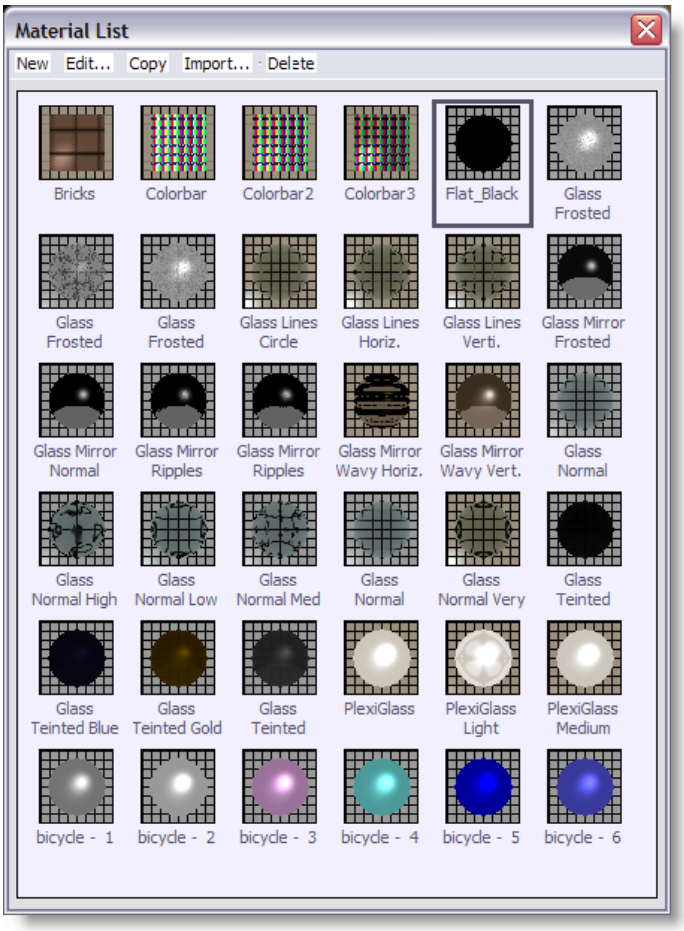

To create a new material, click on New and then Simple, this should open a material properties window. You can then apply a series of properties to what ever material you want to create.

Copying a material

You can use the copy function to make a copy of an existing material, this will save you time if you need two materials that are very similar.

Import a material

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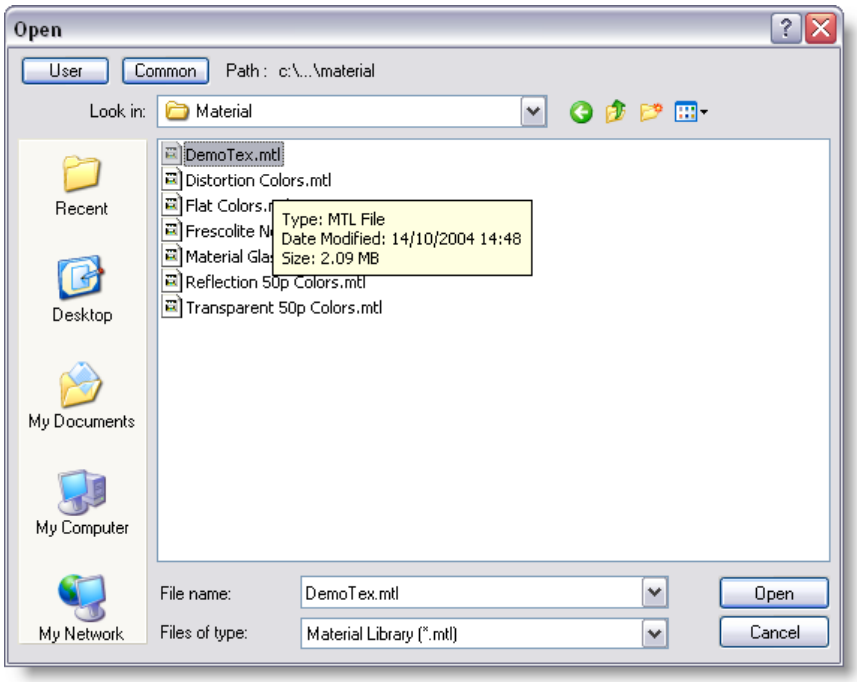

There are a number of pre-made materials for you to choose from, Import allows you to access these.
You can also import materials from other scenes that have been saved on your computer. To do this click on Import and change the file type to scene (.scn), then search your computer for the scene file and open it. It will then give you a list of all the materials that were used in that scene.

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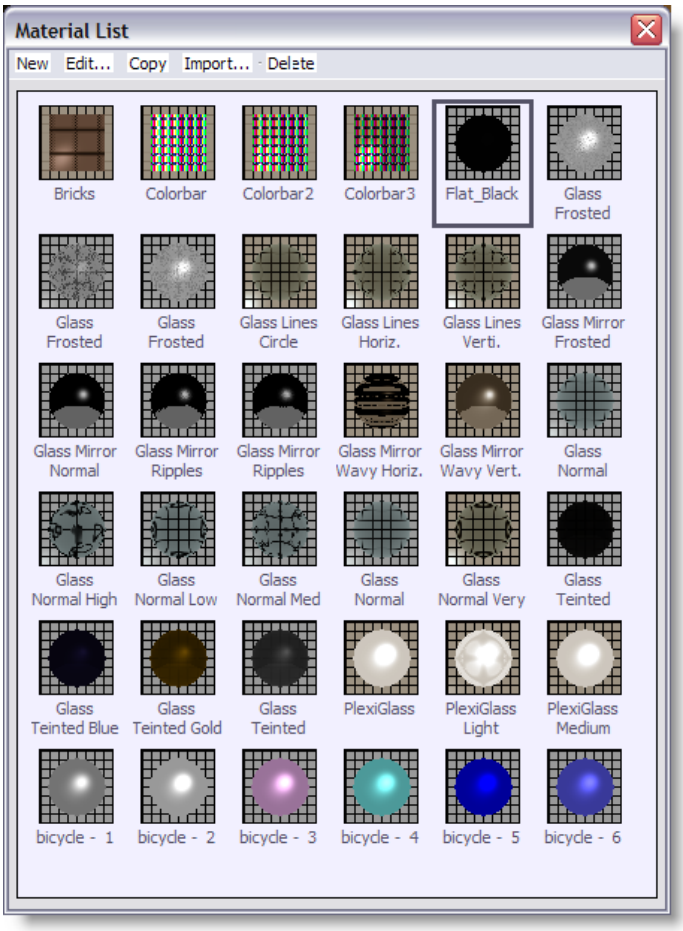

Delete a material
Simply click on the material you wish to delete and click on the delete

Applying your material

- Pick the object you wish to apply your material to.
- Open it's properties window, (Alt +Enter)
- Click on the Materials page.
- Select which part of your object you wish to apply the material to and click on it.
- Click on the material you wish to apply to the part
- Click OK

The Un-link button is so you can separate the material from the part.
The Add button allows you to add more materials to the list from other scenes, much like Import.

Tips: you can create your own Material library
Simple Start a scene in ShowDesigner and create or import all desired textures.
Save the scene.
Then, rename that scene with a MTL extension like "MyTextures.mtl"
When ever you want to import a material,

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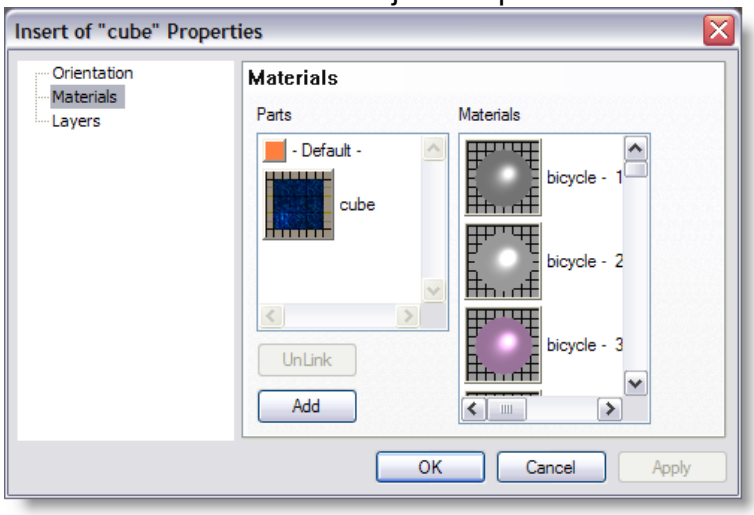
use the Add button is the Object Properties/Material

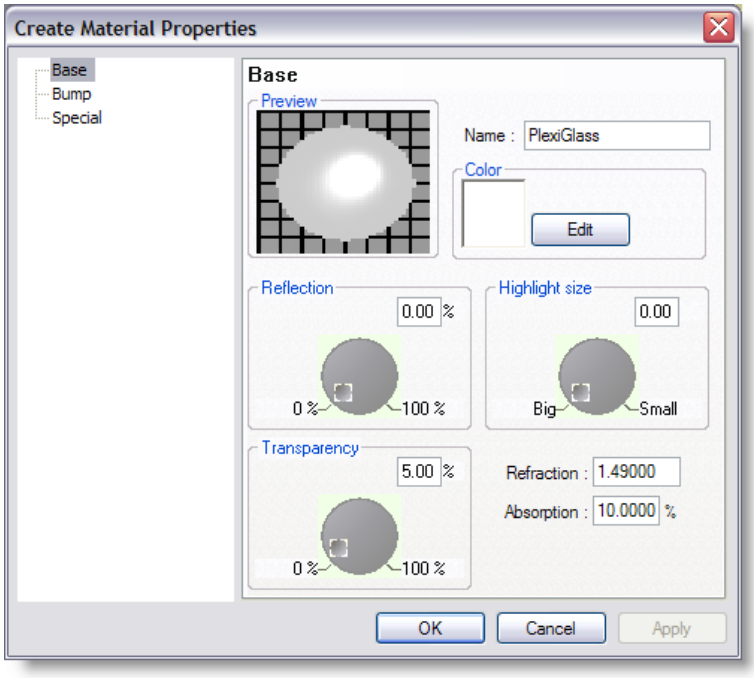


or use the Import button in the Material list.

3.13.1 Material Base

Both Material Texture and Simple have the same Base settings

All the parameters of the simple material can be set using the following property sheet, which has 3 property pages, named 'Base', 'Bump' and 'Special'.



Name: You can give your material any name you like

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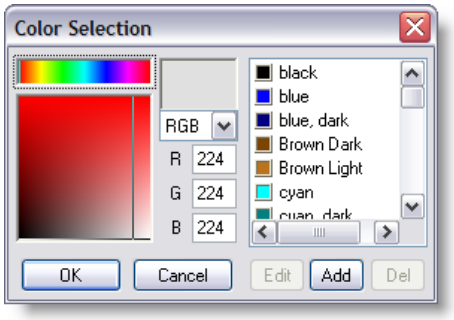
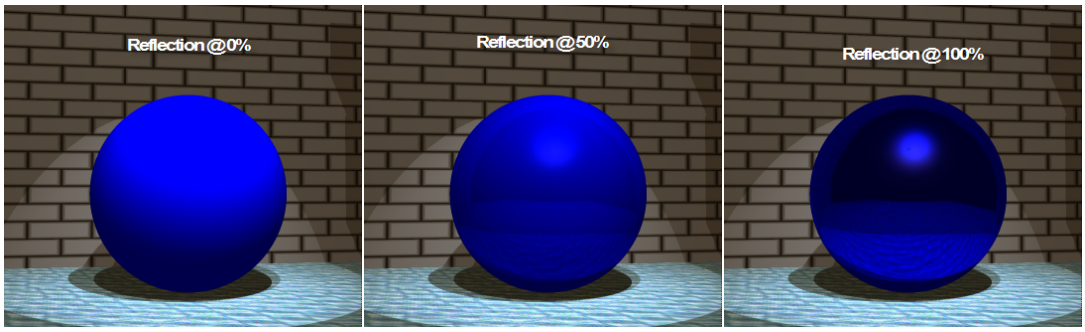
Color: This box contains a rectangle with the color of the material.
You can change the color of the material by clicking on the '**Edit' button**; this will display a color selection dialog in which you can select a new color.



There are two parameters that define the reflectance of a material. The first (on the left) is the reflection. This is the percentage of light that is reflected back. 0% indicates a dull surface and 100% indicated a perfect mirror. The second parameter (on the right) is the 'Highlight size'. This value is an indication of the smoothness of the material. If a material is rough, a big highlight can be seen on the surface. If a material is very smooth, the size of the highlight will be small. Below the reflection parameters you see the transparency parameters. On the left you see the transparency percentage, this percentage indicates the amount of light going through the material, the rest of the material will be reflected back or used to color the object depending on the amount of reflectance you have set.

Reflection: Make your material reflective. 0% will not reflect anything, 100% will work like a mirror.



Highlight size: Controls the size of the reflected light you see on the surface of the material. (Only works if you have a reflection on)

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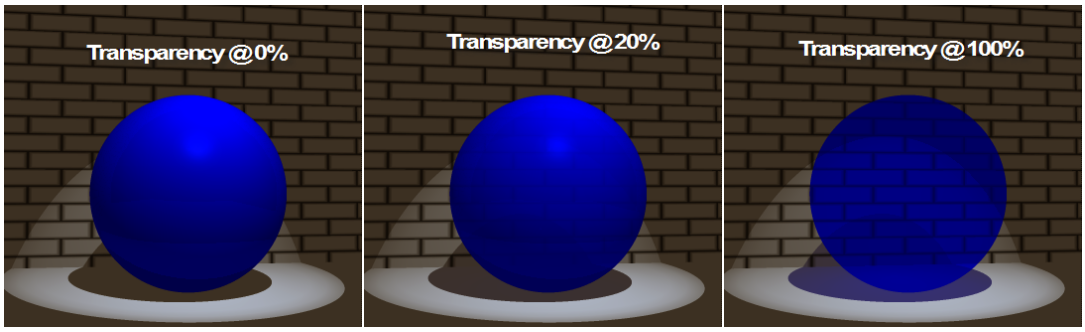
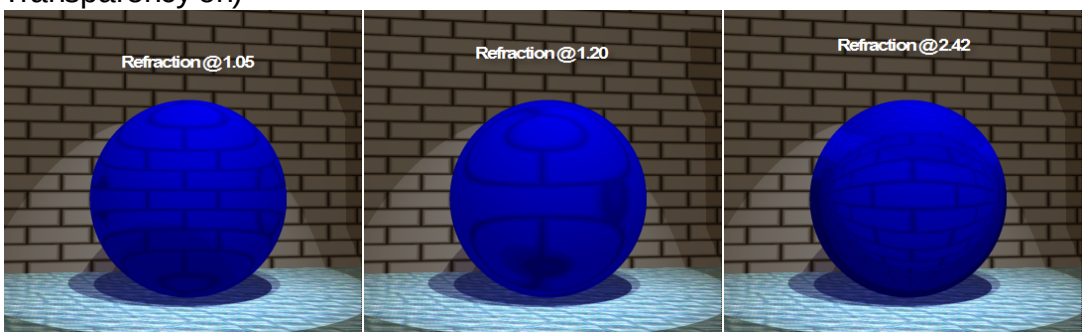
Below the reflection parameters you see the transparency parameters. On the left you see the transparency percentage, this percentage indicates the amount of light going through the material, the rest of the material will be reflected back or used to color the object depending on the amount of reflectance you have set. Next to the transparency percentage you see the other two transparency parameters.

Transparency: Make your material transparent, so you can see other objects through it.



Refraction: Control at what angle the material refracts light. (Only works with Transparency on)



Some example of refraction values

Diamond	2.42
Glass	1.55
Quartz	1.55
Perspex	1.49
Water	1.34

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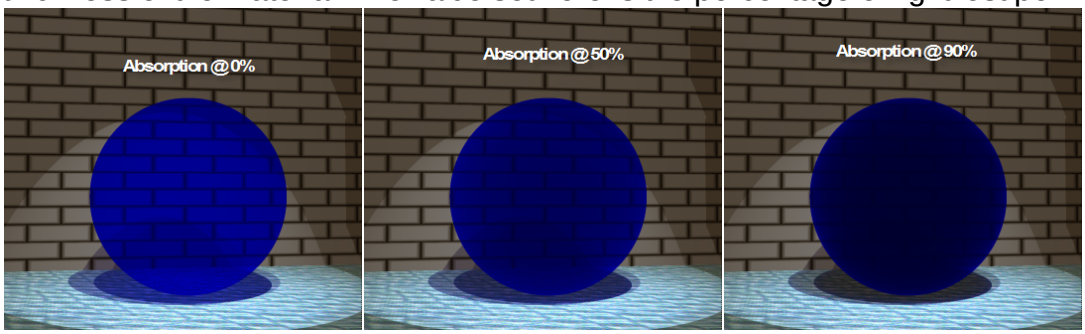
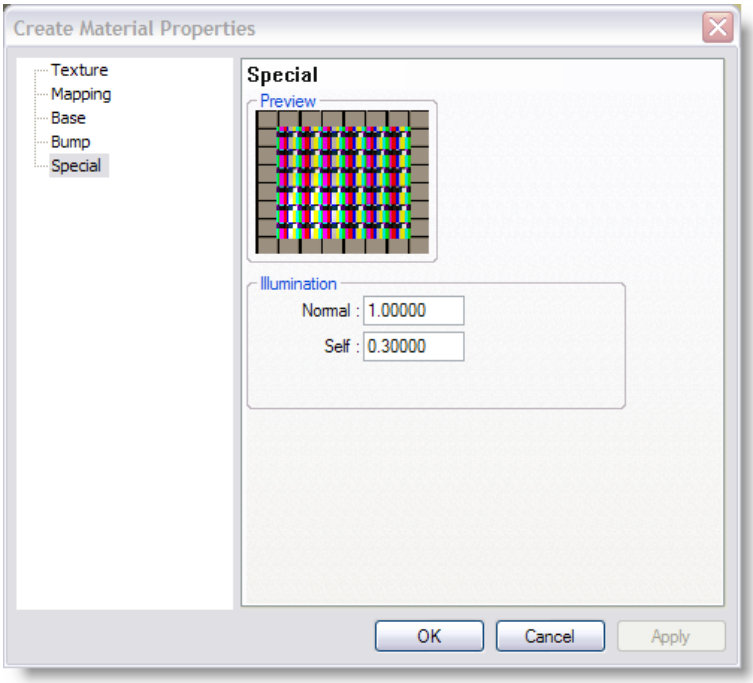
Ice	1.31

Absorption: Control how much the material reduces any light beam that passes through it. (Only works with Transparency on)
The absorption indicates how much light is lost in the material; this also depends on the thickness of the material. The value set here is the percentage of light lost per meter.



3.13.2 Material Special



In this page you can adjust two parameters that determine how the material is lit. The first parameter (normal) determines how much the material is lit by fixtures (the normal lights). A 1.0 means that all the light that hits the material will be used in the calculation, a 0.0 means that none of the light will be used, making the material look as if it not lit by any lights.
The second parameter is used to set the self-illumination. A 0.0 means that the material is not lit by itself and 1.0 means that the material is fully lit by itself.
These two parameters allow you to create special effects. You could create a backdrop with a texture of a sky on it, and by adjusting the 'Normal' parameter you could ensure that no light from the fixtures would be visible on the backdrop. To make the backdrop

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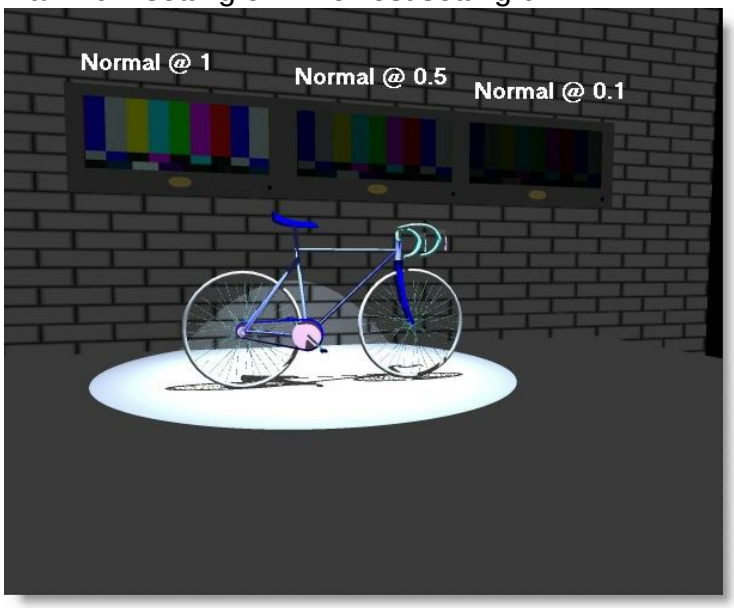
just as light as the real sky you can set the 'Self'-illumination parameter to a higher value. Another effect you can simulate with these parameters is Fiber optics, you can use the self illumination parameter to light up the material without shining any fixtures on the material.

Normal Illumination

Reduce the amount illumination a light causes on the surface. Normally set to its maximum setting of 1. Lowest setting 0.



The 3 video screens above from left to right (With Self set @ 0)
A = Normal @ 1
B = Normal @ 0.5
C = Normal @ 0.1

Self Illumination

Cause a material to produce its own light, so it will glow like a television screen. Normally set to 0, a setting of 1 is the brightest.
Once you have created your material, simply click on OK to save it.

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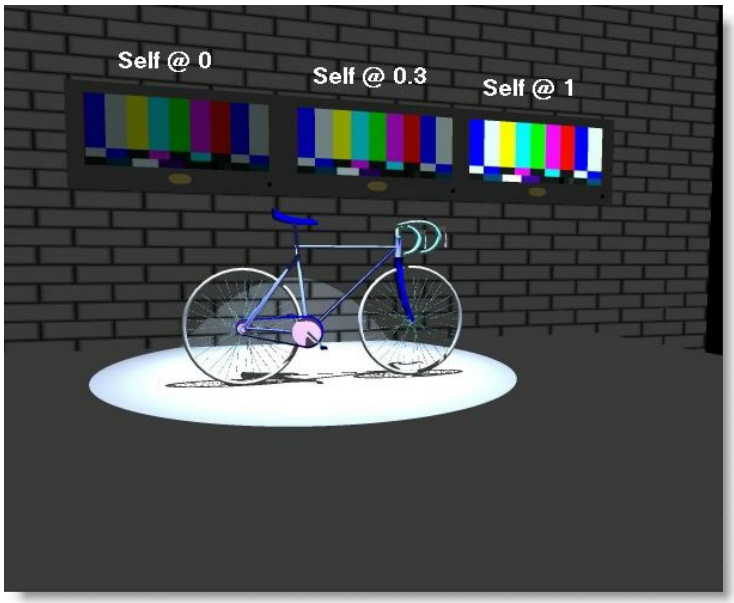
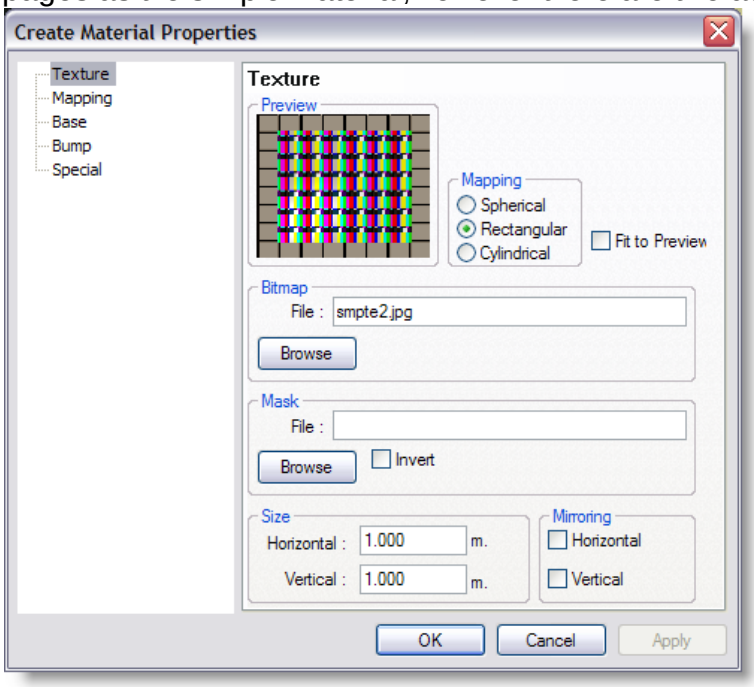


The 3 video screens above from left to right (With Normal set @ 1)
A = Self @ 0
B = Self @ 0.3
C = Self @ 1

3.13.3 Material Texture

Creating a textured material is almost the same as creating a simple material, except you click on Texture under the new menu, instead of simple.
Once the material properties window opens you will notice that you have the same three pages as the simple material, however there are two additional pages.



Mapping Spherical, Rectangular and cylindrical.

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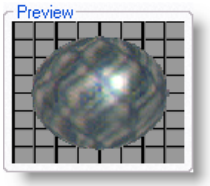
Here you can select how the bitmap will be 'pasted' on the object. If you select 'Spherical' or 'Cylindrical' the bitmap will be wrapped around the object.
If you select 'Rectangular' the bitmap will be pasted on the front of the object. If you select a mapping mode, some options in this dialog will change

Fit to Preview: Option only available to 'Rectangular' and 'Cylindrical' mapped textures. This option changes only the preview, when you activate this option; the size of the texture will be ignored when the preview is calculated. Instead of the size you entered, the size will be scaled to fit the cube / cylinder in the preview exactly.



Bitmap In the 'Bitmap' section below the preview you can select the bitmap that is used for the texture. The name can be typed in or selected from a list by clicking on the 'Browse' button.

Mask If you find a picture and use it in this section, any white or light colored areas will become transparent. It converts your picture into a greyscale image, anything between white and 50% grey becomes transparent and anything about 50% to black remains solid. The invert button swaps this around.

Here some examples using this texture

and a mask

Normal Mask

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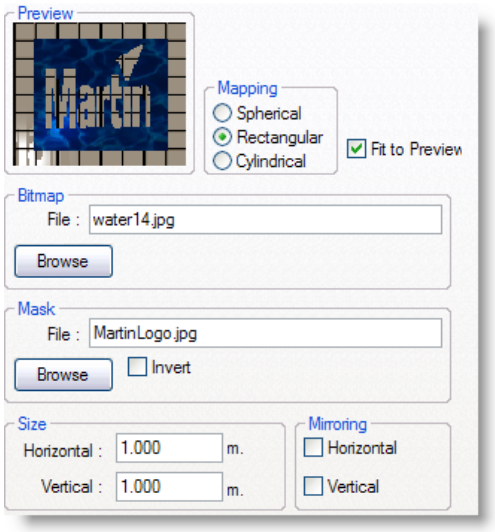
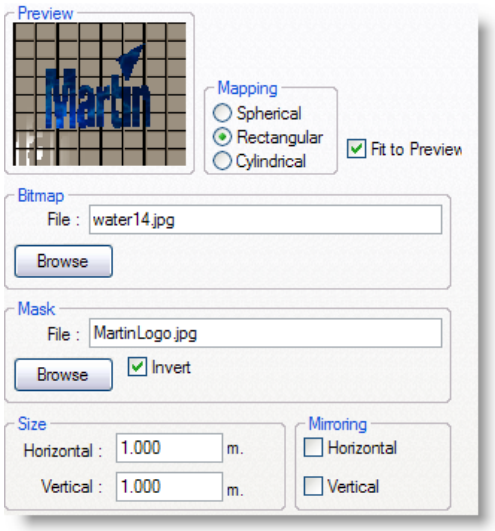


Inverted Mask



leftleftleft

Size Below the 'Mask' area you can see a box called 'Size'. This is where the 'Spherical', 'Rectangular' and 'Cylindrical' modes differ:

- Spherical

  The horizontal number indicates the number of times the bitmap is repeated from the back of the object around the front to the back of the object again. The vertical

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number indicates the repetition count from top to bottom.

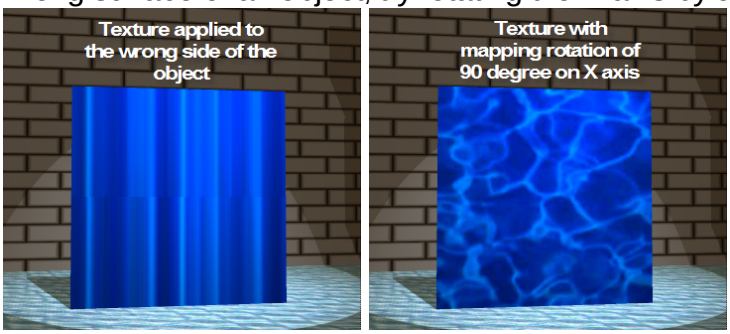
- Rectangular
  The horizontal number indicates the horizontal size of the bitmap (the size of the object that the bitmap represents). The vertical number indicates the vertical size.
- Cylindrical
  The horizontal number indicates the number of times the bitmap is repeated from the back of the object around the front to the back of the object again. The vertical number indicates the vertical size.

Mirroring When you have multiple pictures applied to your texture you can make it mirror the images. I.e. every other image will be reversed, see mirroring below.

Scale Is another way of putting multiple pictures into one texture. For example, 0.5 will split your surface in half and put 2 pictures on it side by side. 0.25 will split it into 4.

Offset Controls how far into your surface the picture starts

Rotation Can make your picture rotate to different angles. If a texture shows on the wrong surface of an object, try rotating the X axis by 90 degree



Mirroring

This example shows you the effect of using mirroring on a texture, this is the bitmap that is to be the base for the texture:

Now it is set up to repeat the image several times across the texture:

Now Horizontal Mirroring is switched on:

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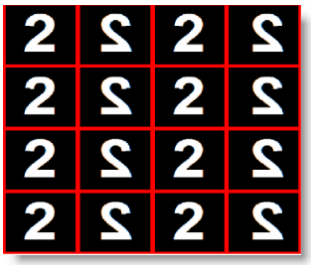
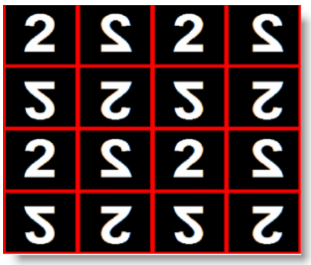
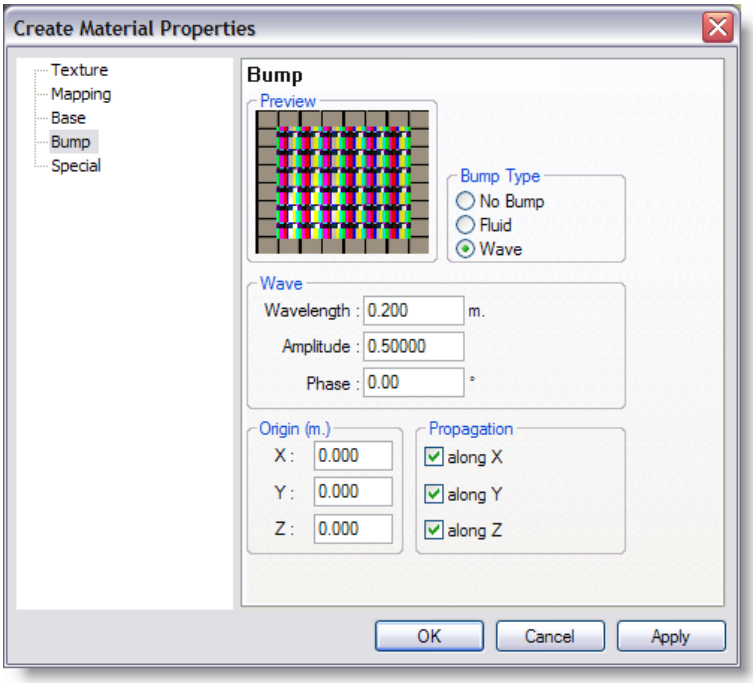


Now the Vertical Mirroring is switched on as well:



3.13.3.1 Material Bump



Next to the preview you see a box with the Bump Type of the material. The bump type can add a 'wavy' element to your material, to simulate water etc. Selecting the 'Fluid' option will simulate 'large water masses' by adding a semi random wave pattern. Selecting the 'Wave' option enables you to define a specific wave.

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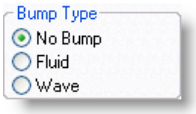
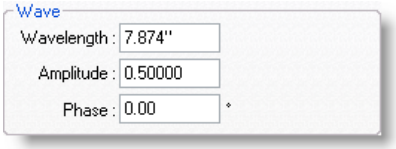


Bump Type:

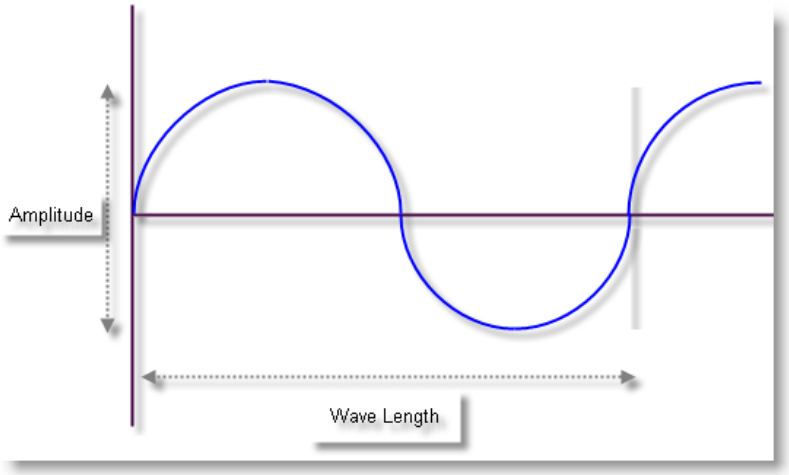
'No bump' turns the effect off,

'Fluid' will make the surface fairly random to make it look like water,

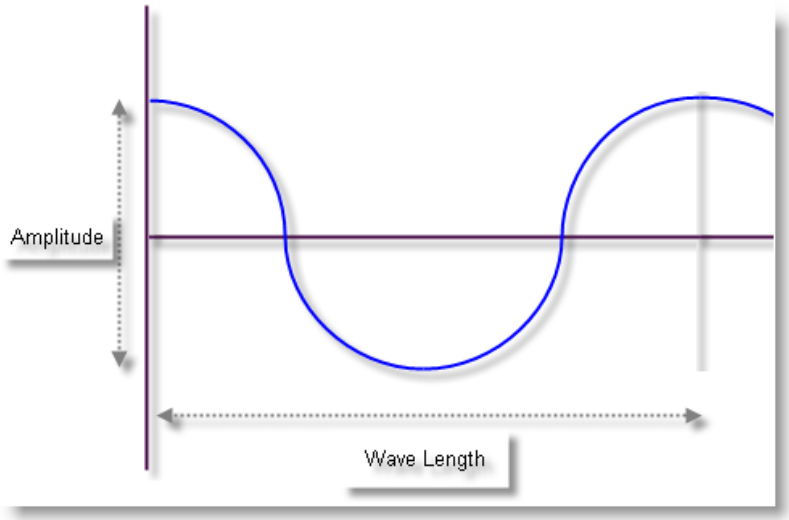
'Wave' will make the surface have an even wave on it. This will not change the shape of the object you put it on, it effects the way light is reflected off it.



Wavelength: Length of each wave



Amplitude: Controls the height of the waves



Phase: controls which part of the wave it starts with

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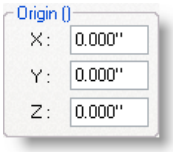
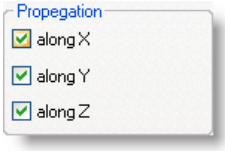
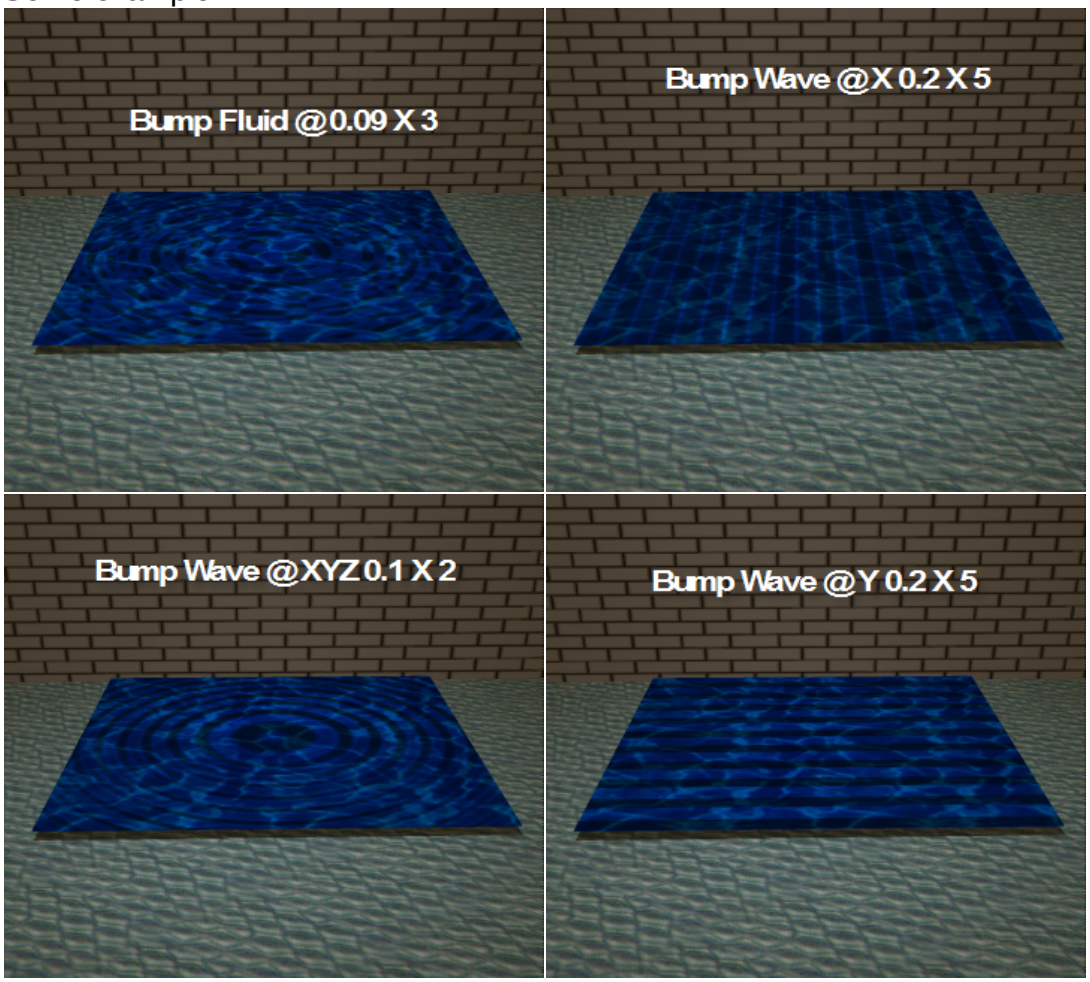


Origin X, Y, Z. Controls where on the material the wave starts



Propagation Controls which direction/s the wave moves in (Wave only)

Some example



3.13.4 Color Selection

Color Selection
Whenever you need to enter a color, the MSD software will display the following dialog.

Color Selection

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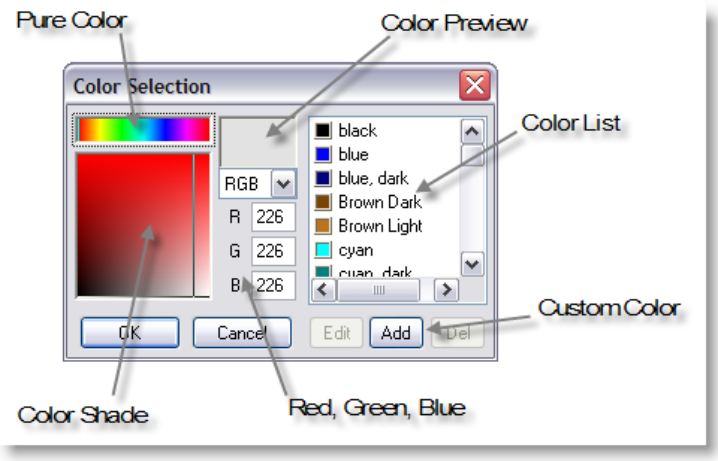
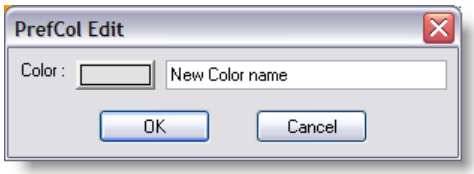


This dialog is divided into two parts, the left part allows you to enter a color using the mouse or by typing in the Red, Green and Blue values directly. On the right is a list of colors from which you can choose.
Selecting a new color

The 'Pure colors' field can be used to select the color displayed in the top of the 'Color shades' field. The 'Color shades' field can then be used to select the desired shade. On the left of this field all the shades between the pure color and black are displayed. On the right you will find all the shades between the pure color and white. While you are dragging the mouse in these fields, you can see the selected color in the 'Color Preview', and the RGB values in the edit fields.

Using the color list
The list can be used to quickly select a saved color. You can use the 'Add' button to add the selected color to this list. If you select a color from the list, the 'Edit' and 'Del' buttons will become available. With the 'Del' button you can delete the selected color from the list. When you click on the 'Edit' button, the following dialog will appear

Color list color edit



In this dialog you can change the name of the color and change the color by clicking on the button next to the name. When you click on the color button you will get a dialog very similar dialog except for the buttons beneath the list.

3.14 Rendering

Rendering is a system that creates a high quality three dimensional view of your scene,

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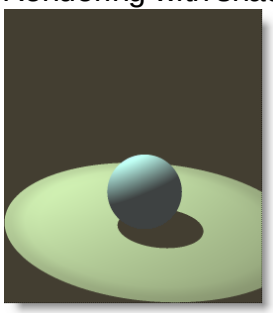
taking into account light levels, beams, smoke levels, reflections and shadows.
Once completed your rendering is fixed and you cannot change anything about it. To do this you have to switch down to a lower graphics level and then render it again.
The rendering process is quite complex and takes a lot of computer power to complete. As a result it can take quite some time, even several hours on slower systems or with very large or complex scenes.
To speed this process up there is a system called Fast-Net Rendering, which utilizes several computers over a network in order to speed up the process, this is covered in a separate section.

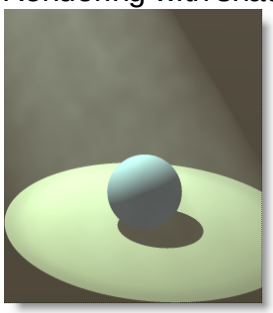
A rendering is a computer generated image of your scene that works out what exactly would come out of each fixture and what that light would do to any surface it hits.

More...
Rendering settings
Creating a Rendering with specific settings
Saving a rendered image

Rendering with shadow but without smoke



Rendering with shadow and smoke



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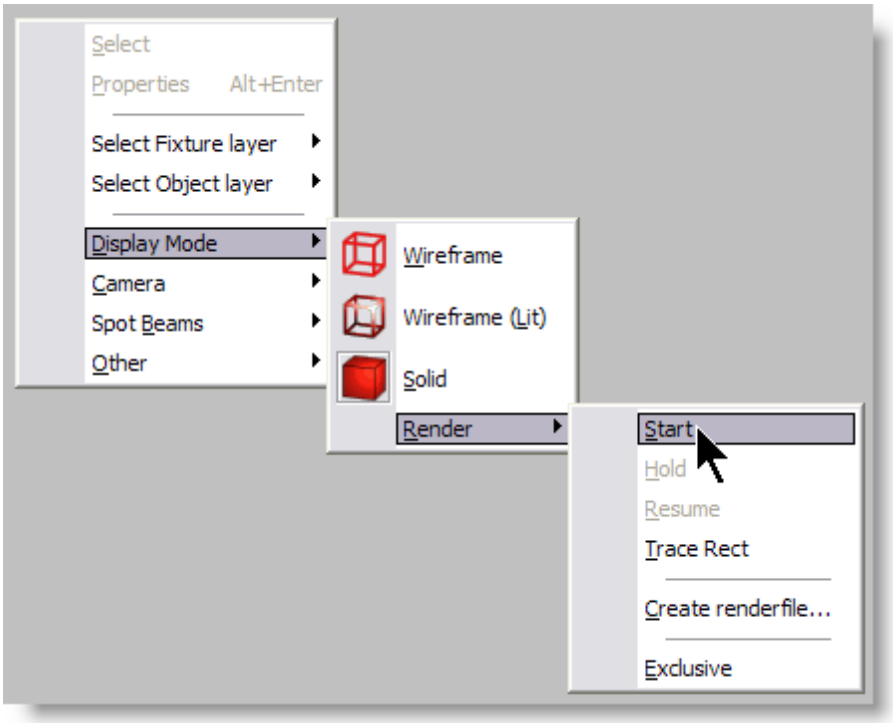
3.14.1 Rendering Creation

To do a quick rendering

- Select your 3D window.
- Adjust your camera settings so you have a good view of your stage
- Click on the Trace Shadow button

Now wait and watch your scene come to life. You will see a percentage count up in the top of you window, indicating how far it has got.

It's also possible to render a scene with different settings. To do this right click in a 3D view, then Display Mode > Render > Start



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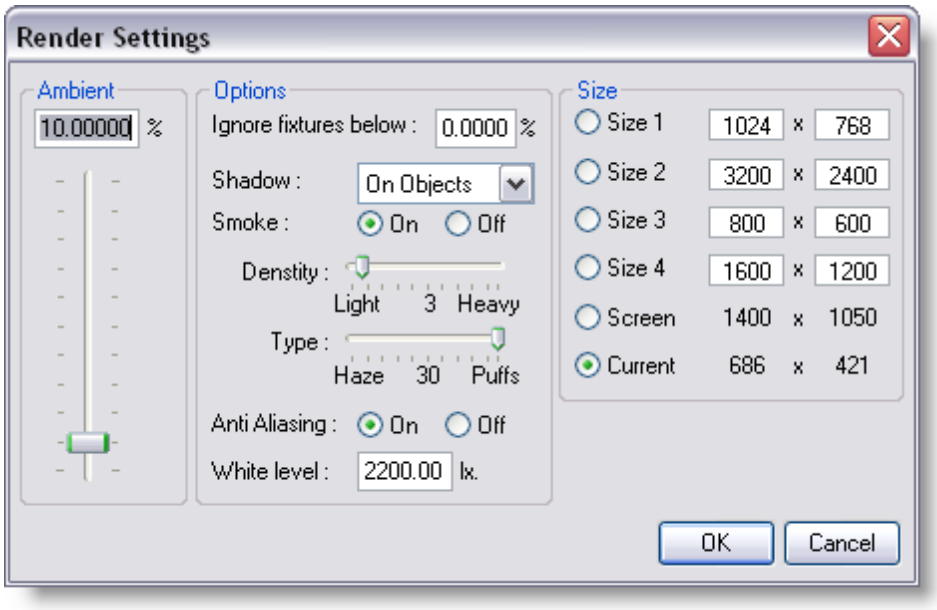
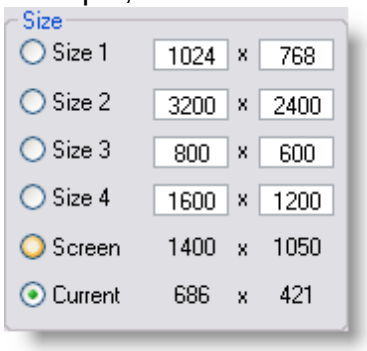


[See this topics for the render options settings]

Rendering can be done in different size. The higher the size (resolution the longer it takes)
Example, a 1600 X 1200 rendering will take 4 times the time for a 800 X 600 rendering.



Another consideration is the screen ratio use to set the camera view in MSD can be different then a screen ratio of the chosen size.

A way to know the current ratio is too look at the "Current" size
Example on the above screenshot, the current size of the 3D MSD window was 686 X 421 = a ratio of 1.63 (868 divided by 421)
In order to get the same ratio at 1600 X 1200, it should be set to 1600 X 982 (1600 divided by 1.63)

Start
The start option will start the rendering of the scene.

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Hold
The Hold option will temporarily stop rendering the window. This might be useful if you are rendering a complex scene. By setting the rendering on hold, you get more time to do other things (in this application or another). This option is only available if you are currently rendering in the window.

Resume
The Resume option will resume rendering a window, which was previously stopped by using the Hold option. This option is only available if the window is currently in a 'hold rendering' mode.

Exclusive
The Exclusive option is a special case of the Start option. The exclusive option will also start rendering a window, but if you choose this option, the ShowDesigner application will turn its full attention to the rendering process. This means that nothing else can be done with the ShowDesigner until the rendering process is completed. It can not be stopped! So be very careful to use this option. The only advantage of this way of rendering is that it is faster.

Create Render file
Use this to create a render for the Fast Net-Render

3.14.2 Saving a Rendering

To keep a rendering, for use in presentations or documents, under the Window Menu, click Save As Bitmap.

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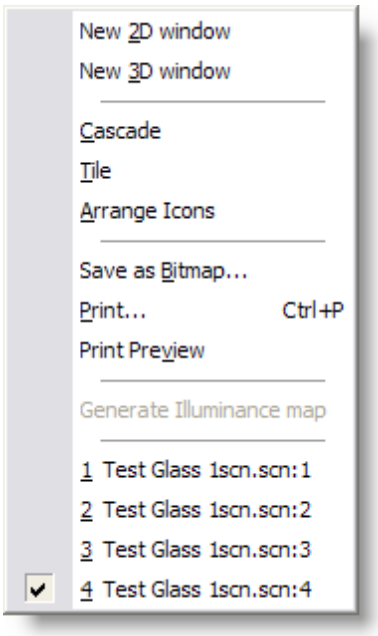

When saving a bitmap, it is possible to save it under different format.

When JPEG is chosen, the compression level can be set by press the JPEG Setting button.

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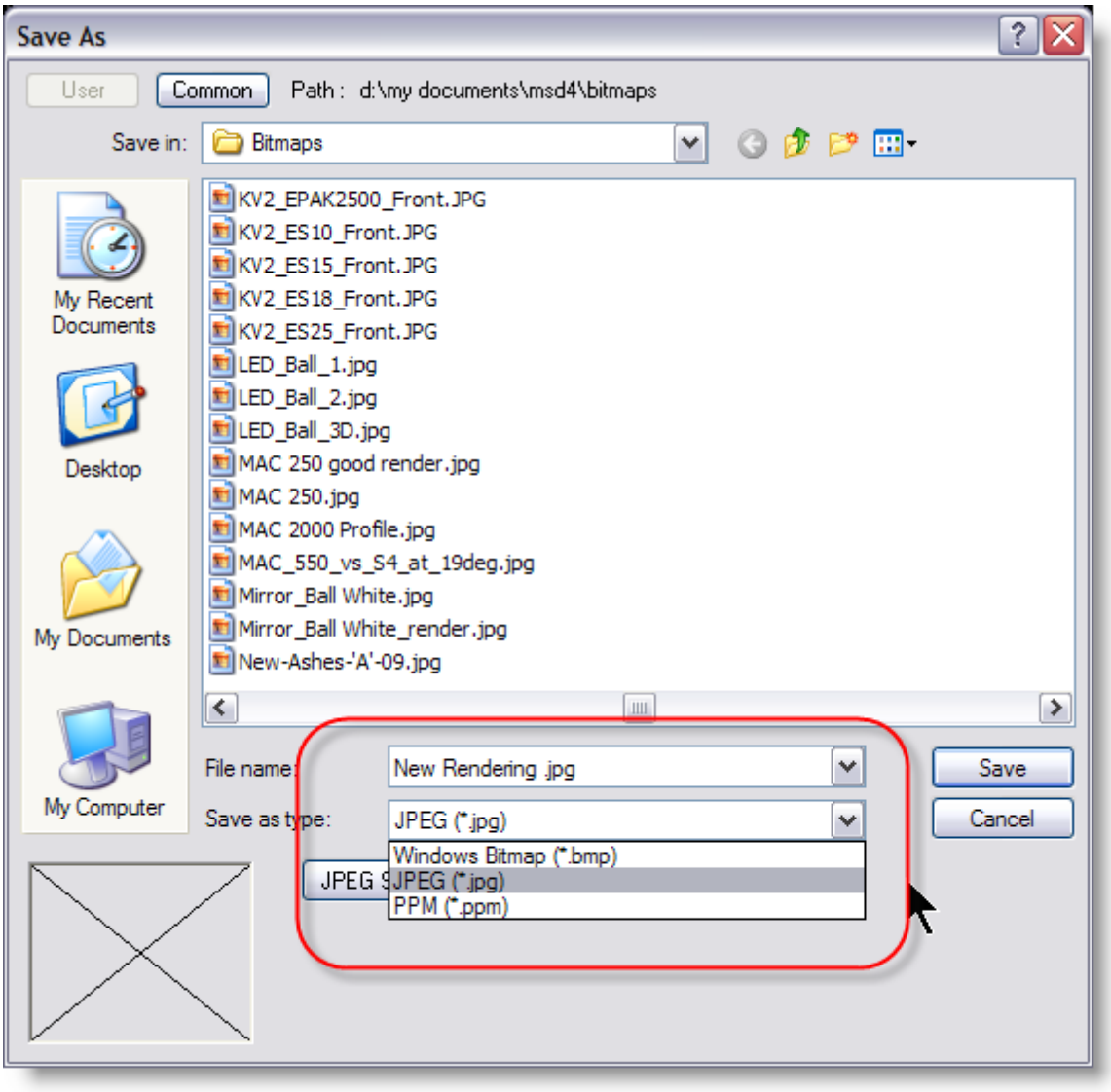

3.15 Lux Meter

Operation | Lux meter

Shortcut: **I**

This option activates and deactivates the Lux meter. When the Lux meter is active, you can take light measurements of the light falling onto an object.

The mouse cursor will change for when activated

The taking of the measurements start when you first click in a window. The program will

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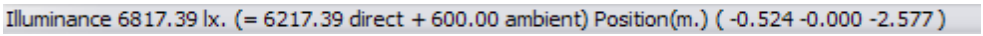
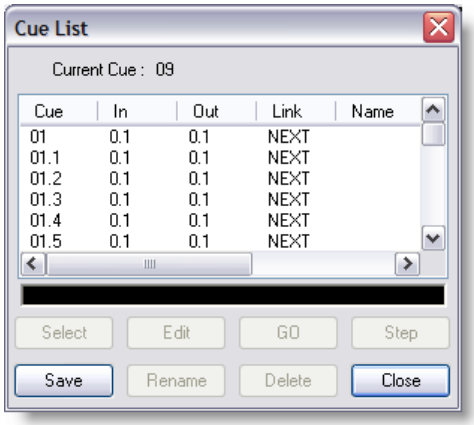
then gather and store information on the scene as it is at that moment. It will use this information to calculate the illumination, and this information will not change until you leave the 'Lux meter' by selecting it again.
This also means that you should not change anything in the scene while you are using the lux meter.
When you click somewhere in a window, the lux meter will start calculating (and will do so as long as you keep the mouse button down) the light falling onto the position you are pointing at.
The information will be displayed in the 'Statusbar' at the bottom of the application. It will look something like:



Illuminance 6827.39 lx. (= 6217.39 direct + 600 ambient) Position (m.)(-0.524, 0.000,-2.577)

This means *6827.39* lux falls on the position *-0.524, 0.000,-2.577* (of which *6217.39* lux directly from light sources and 600 from ambient light).

3.16 Cuelist



The cue list system allows you to store lighting 'states' with in the MSD and then play them back with simple timings. It is essentially a very basic lighting console built into MSD.
To bring up the cue list window, click on the View menu and click on Cue Lists.
This list shows all the cues in this scene. As you can see there are several cues in this scene. In new scenes this list will be empty, the above example is taken from an existing scene.
Then to save your current look, click on the Save button, this will open the Cue Save window. Then fill in the cue number box, with what ever number you want. If you start with a 1, the next time you open the save window it will automatically count on one for you.
Then type in a name for your cue and click OK.

Once you have created a cue, there are a few things you can do with it. For information on managing cues, see 'Cues '.

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Cues can record incoming DMX values, so you can save the feed from a DMX controller and then play them back in your scene at another time.
When cues are running, the DMX values are outputted to other programs, for example the Visualizer and can therefore be used to control the lights in these programs.

At the top of the dialog, you can find the 'Current Cue'. This is the last selected cue. In the list itself, 1 or more cues can be highlighted. If an operation works on 1 cue only, it will be the first highlighted cue; otherwise it will work on all highlighted cues.
At the top of the list you see a gray area with the text 'Cue', 'In', 'Out', etc. This is called the header. In the header you can also see vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. Every cue has 8 columns:

- **Cue**
  This is the identifier of a cue. It can range from 1 to 999.999.999, which represents cue 999, subcue 999 and subsubcue 999.

- **In**
  This is the cue fade in time (in time notation).

- **Out**
  This is the cue fade out time (in time notation).

- **Link**
  Here you can specify a cue link to another cue.

- **Name**
  A descriptive name for the cue.

- **Follow**
  This specifies the follow-on time if a link is specified.

- **Delay In**
  This is the cue delay in time (in time notation).

- **Delay Out**
  This is the cue delay out time (in time notation).

At the bottom of the window are eight buttons. The functions of these buttons are described here:
- **The Select button:**

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Allows you to select the highlighted cue and it will become the current cue. In other words, the stage will represent this cue.

- **The Save button:**
  The stage settings will be saved as the highlighted cue.

- **The Edit button:**
  Allows you to edit the cue properties (fade times, delay times, link etc) of the (first) highlighted cue.

- **The Rename button:**
  Allows you to edit the cue number of the highlighted cue.

- **The GO button:**
  Will start a crossfade from the current cue to the highlighted cue. The Step button will turn into a STOP button.
  After the crossfade is done, and an autolink is specified, the next crossfade to the linked cue is automatically started, and so on. It will stop when no autolink cue is specified or the user presses the STOP button. (See also Step)

- **The Delete button:**
  The Delete button will delete the highlighted cue(s).

- **The Step button:**
  The step button will start a crossfade from the current cue to the highlighted cue. While crossfading, the Step button will turn into a STOP button. After the crossfade is done, it stops. If an autolink is defined, it will not be executed. A crossfade can be stopped at any moment by pressing the STOP button. (See also GO)

- **The Close button:**
  The close button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. Selecting the 'Cue list...' menu item from the 'View Menu' can open this window again.

Cues

A cue number represents a cue. You can define up to 999 cues. Each cue can be subdivided into 999 subcues (point cues) and each subcue can again be subdivided into 999 parts. This 3 level numbering is only used for sorting of the cues, so there is no difference between a cue with cue number 7 and a cue with number 4.27.200, it only means that cue 7 comes after cue 4.27.200
So, the 998001999 possible cues are sorted like this:
001
001.001
001.001.001
..

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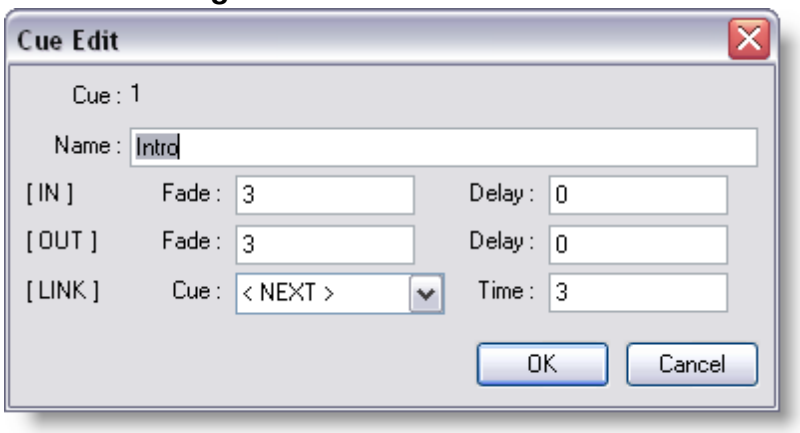
001.001.999
001.999
001.999.001
..
001.999.999
..
999

Cue edit dialog



You can give the cue a name, time settings and (optionally) a link.

The name of a cue is purely informational for the user.

After [IN] you can enter the 'fade in' and the 'delay in' time.
After [OUT] you can enter the 'fade out' and the 'delay out' time.
After [LINK] you can specify if you want a link to another cue, and if so, what the 'link time' should be.

Time values are entered (and displayed) in 'time notation'. This format looks like this: [[hours:]min:]sec[.tenthsec]

The elements between [and] are optional. The minimum time you can enter is one tenth second (0.1) and the maximum time is 999 hours, 59 minutes, 59 seconds and 9/10 of a second (999:59:59.9). So 20 is 20 seconds, 1:10 is 1 minute and 10 seconds, etc. You can enter a time in different ways: entering 5025 (5025 seconds) or 83:45 (83 minutes and 45 seconds) will both produce 1:23:45 (1 hour, 23 minutes and 45 seconds) as time.

Default, a cue is linked to the next cue, so after 'link cue' you will see '< NEXT >'. You can select a link from the drop down box by clicking on the down arrow next to it. In the drop down box you will find the options '< NO LINK >', '< NEXT >' and all other cues. By selecting a link, a crossfade to this linked cue will automatically start 'link time' seconds after you started the crossfade to the cue you are editing. Selecting '< NO LINK >' will remove any link, and selecting '< NEXT >' will link to the next cue in the cue list, if there

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is a next cue, otherwise the crossfading stops.

- **A crossfade example:**

A crossfade from cue A to cue B, where cue A has a 'fade out' of 5 sec. and an 'delay out' of 2 sec. Cue B has an 'fade in' of 4 sec, an 'delay in' of 6 sec, a 'cue link' to cue C and a 'link time' of 15 sec.

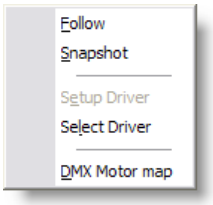
Crossfade timing example

Time (sec)	**Crossfade**
T	User starts the crossfade by pressing the 'GO' button.
T + 2	Cue A starts to fade out.
T + 6	Cue B starts to fade in
T + 7	Fade out completed.
T + 10	Fade in completed.
T + 15	The next crossfade (to cue C) starts.

3.17 DMX Control

It is possible to use a DMX input device to control the lights in your scene.

To use this you first need to select where the DMX is going to come from.



Click on the DMX menu and then click on Select Driver, you may have to restart the program for your settings to take effect.

You then have two options for using DMX, under the DMX menu, you can either take a snapshot or set the program to follow the DMX.

Follow

The follow option will turn on/off the follow mode. If the follow mode is active, The program will be sampling the incoming DMX and update the stage settings accordingly, until you turn the follow mode off.

Snapshot

A snapshot will literally snapshot the incoming DMX and put the lights to the appropriate positions, colors etc. Useful for just picking up a quick look from a DMX feed.

Setup Driver

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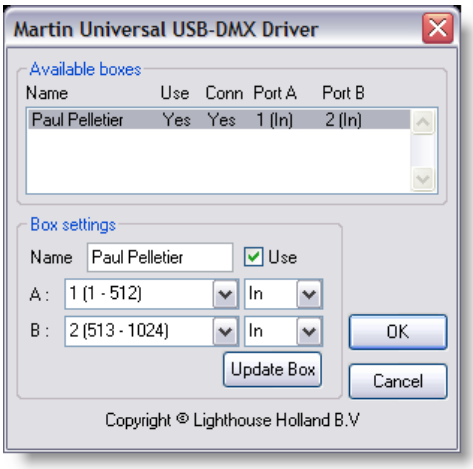
Martin Universal USB-DMX Driver
Available boxes
Name Use Conn Port A Port B
Paul Pelletier Yes Yes 1 (In) 2 (In)
Box settings
Name Paul Pelletier Use
A : 1 (1 - 512) In
B : 2 (513 - 1024) In
OK
Update Box
Cancel
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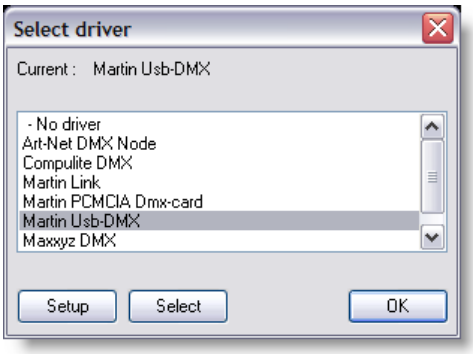
This option allows you to change the settings of the current driver. What kind of settings (if any) are available depends on the active DMX driver.
Settings can be such as using if the device is using as a DMX in or out and select which universe it is map to...

Select Driver...



This option allows you to select which of the installed DMX drivers you want to use.
If you select another driver, it will be used the next time you run the program. In other words, you have to exit and restart the program to have the change of DMX driver take effect.

If you want to communicate between MSD module (ShowDesigner to 3D Visualizer) set the Driver to None. also set the Follow to Off.

DMX Motor Map

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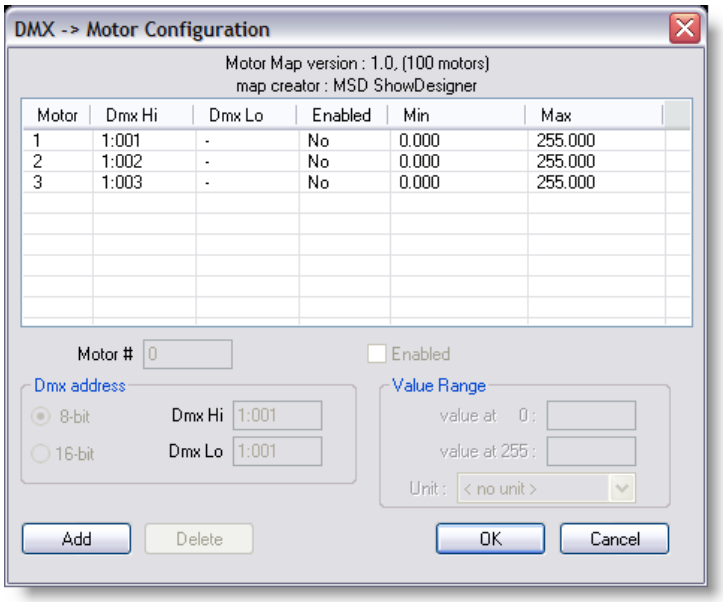
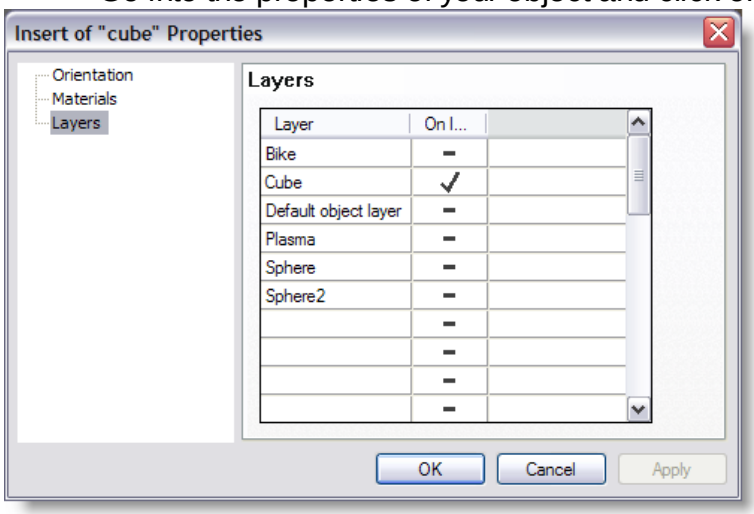


The Motor Map is to patch Dynamic objects to DMX control for simulation purpose.
A Motor can be patch in 8 or 16 bit DMX control
The Channel settings are set in the DMX Hi o and Lo (only hi for 8 bit mode)
The Value range sets the limits of the motor from the DMX control.

3.18 Layers

Creating and using object layers
Once you have inserted your first object, you should put it on a layer. Then for every subsequent object, put it on a layer as you go. This will not only save you time, but a huge headache later on. Here is how you create a layer and put an object on it:

- Go into the properties of your object and click on Layers



- Under the Layers column, click on a blank layer.
- Type in a name for your layer, e.g. Floor, stage or ceiling
- Click on the box to the right of your name, a tick should appear

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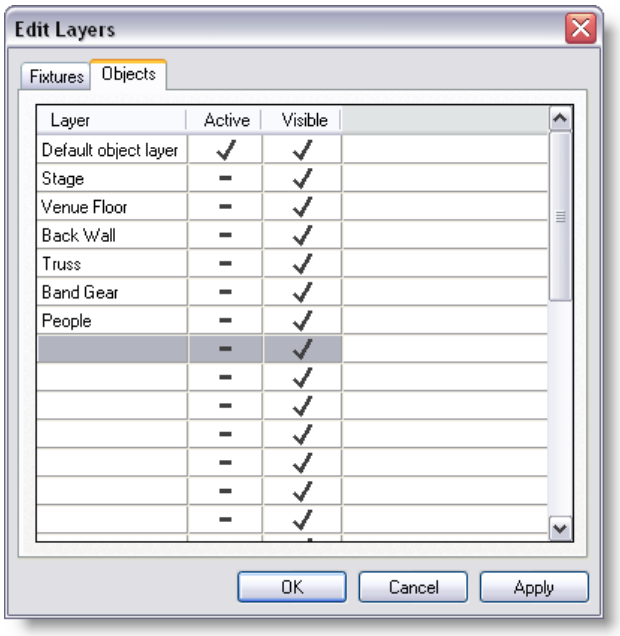
· Click OK

Every time you put an object in, you should put it on a layer straight away. Then put other objects that are located in the same area on the same layer. For example, put your stage, staging blocks, risers, stairs, set, musical instruments and people all on one layer called stage. Create new layers for different areas, for example create another layer for your trussing or lighting bars. You can then split it down even further into front of house lighting, front stage lighting, rear stage lighting, side lighting etc.
Once you have set all this up, you can then turn off the layers you don't want to see at any one time. Simply click on Object Layers or press Ctrl + L, this will open the layer control window. In the visible column you can turn on and off which layers are visible.

You can also use this window to change the current active layer. When you insert a new object it will automatically be placed on the current active layer, saving you time and effort.



Press to access the Fixture Layer control directly

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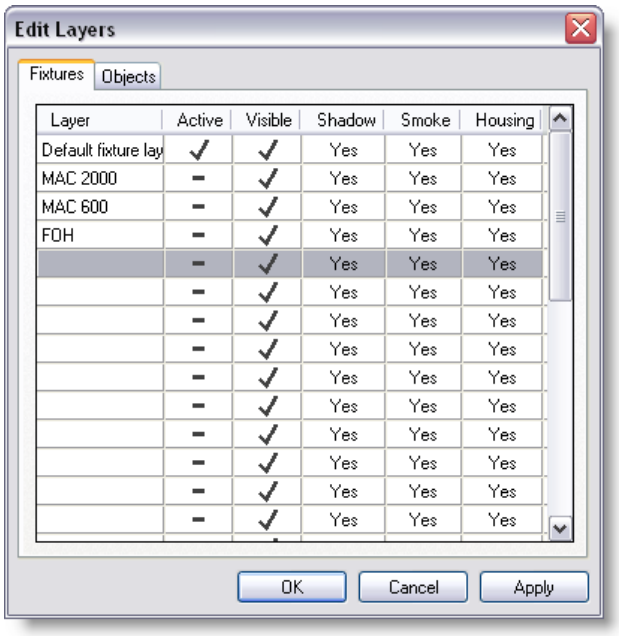

Note: More layers option exists in the 3d Visualizer module

3.19 Fast-Patch

Fast-Patch™ is a function to easily and quickly change the patch of fixtures and a number of accessories. It can patch automated and conventional lights. In conventional lights the dimmer as well as the first 2 scrollers, the first gobo wheel and the first effect wheel can be patched.

Fast-Patch™ is started from the operations menu or from the toolbar with the icon or the **P** hotkey. When the operation is started, the following dialog is shown.

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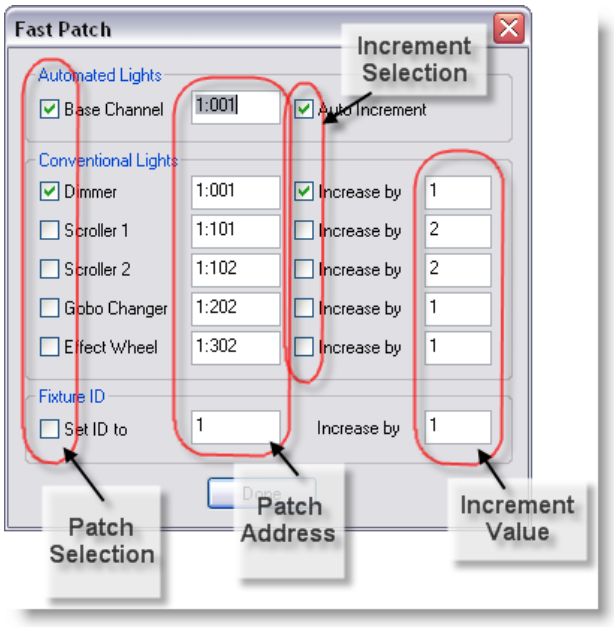
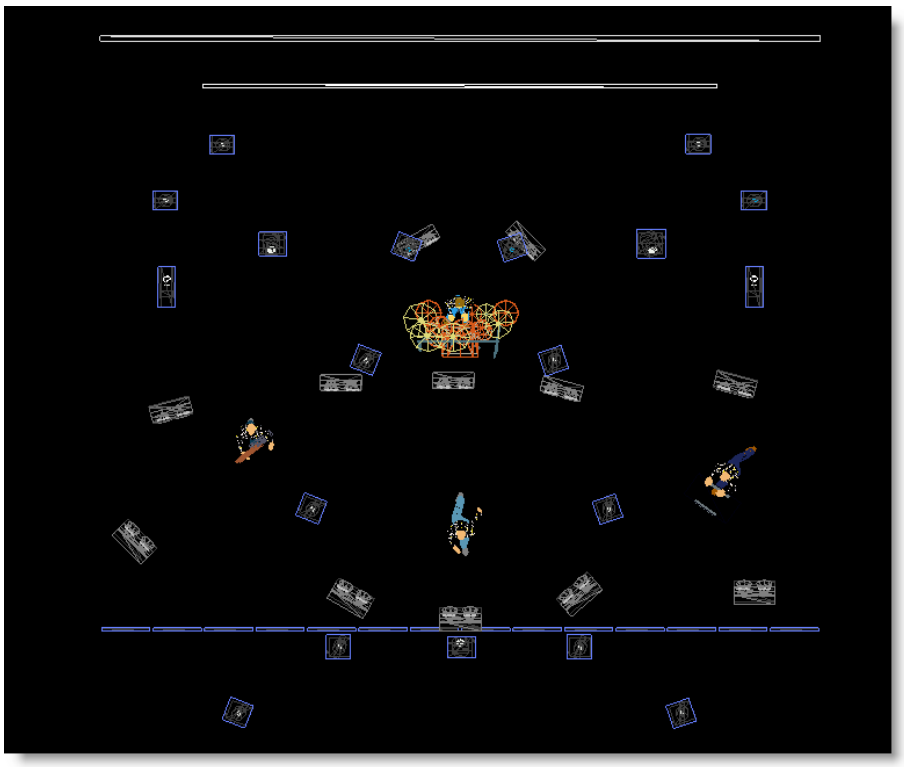


All fixtures will have a blue box around, as you click on fixtures to patch them the blue box will disappear. This make it easier to remember which fixture was patch in the current Fast-Patch session.



This dialog will remain visible until the operation is finished. You can finish the operation by closing the dialog, by clicking on the 'Done' button in the dialog, starting another

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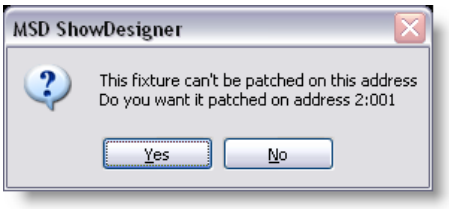
operation or by selecting this action again.
Patching is done by clicking on a fixture. The selected fixture will turn blue while the left mouse button is down. If you hold down the left mouse button, you can check if the correct fixture is selected, and if not cancel the operation width the right mouse button.

The check marks in the Patch selection group indicate whether the channel will be patched in fixture or not. This allows you to quickly patch the dimmer and a number of accessories of conventional lights with one click.
The selected fixture will be patched to the DMX address as indicated in the Patch address fields. The check marks in the Increment selection turn on the Auto increase function. In conventional lights the DMX address is increased by the number entered in the increment fields. In Automated lights the increment depends on the number of channels that is used by the fixture.

When patching automated lights, you can come at the following situation. All channels of a automated light need to be on the same universe, so when you try to patch a automated light that uses 10 channels on address 1:510 they won't fit.
In this case you will see the following message :



If you answer this question with 'No' than the patch will be canceled.

3.20 Printing in ShowDesigner module

Printing from the ShowDesigner module

You can print a scale drawing of any of your windows.

Simply click on the 2D window you wish to print from.

Then click on Window and then Print, this should open a standard windows print window.

Once you click on OK and scale windows will open asking you what scale you want to use. Choose your scale and click OK to complete the print.
The Print Preview option will give you an idea of what your print is going to look like.

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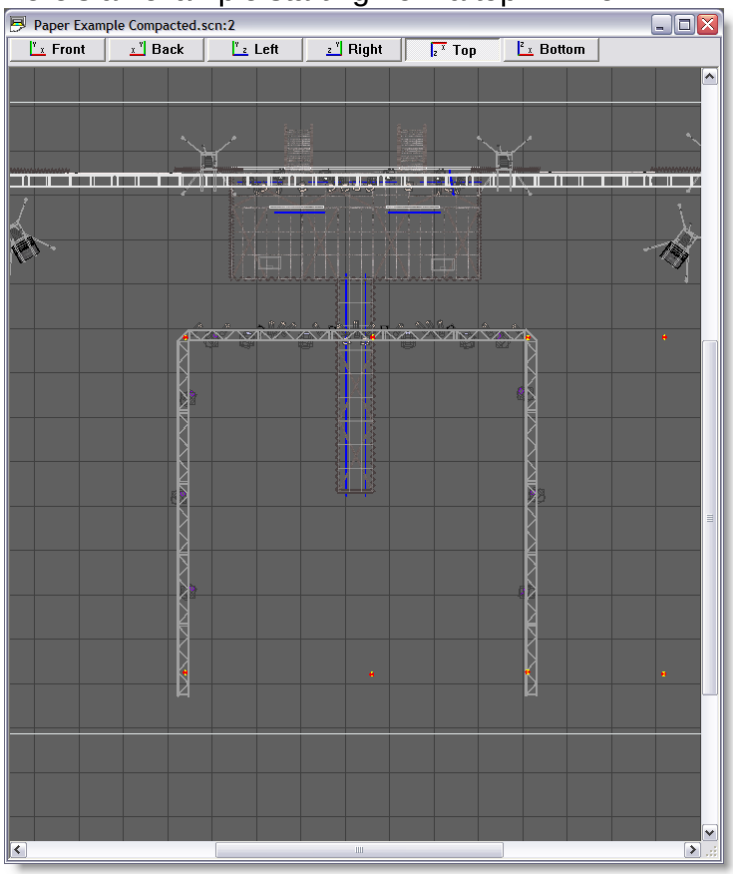
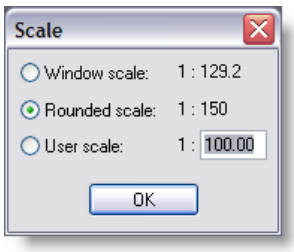
If you have the grid turned ON, a grid will be print in the background with dimension at the edges.

For more printing options see the Paper module

Here's an example starting from a top 2D view.





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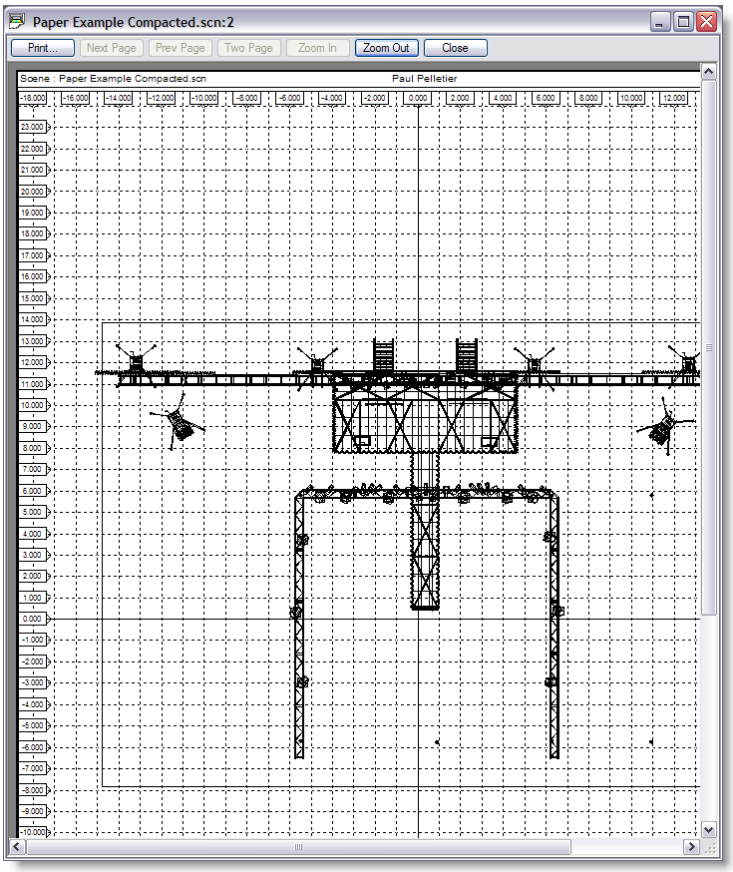

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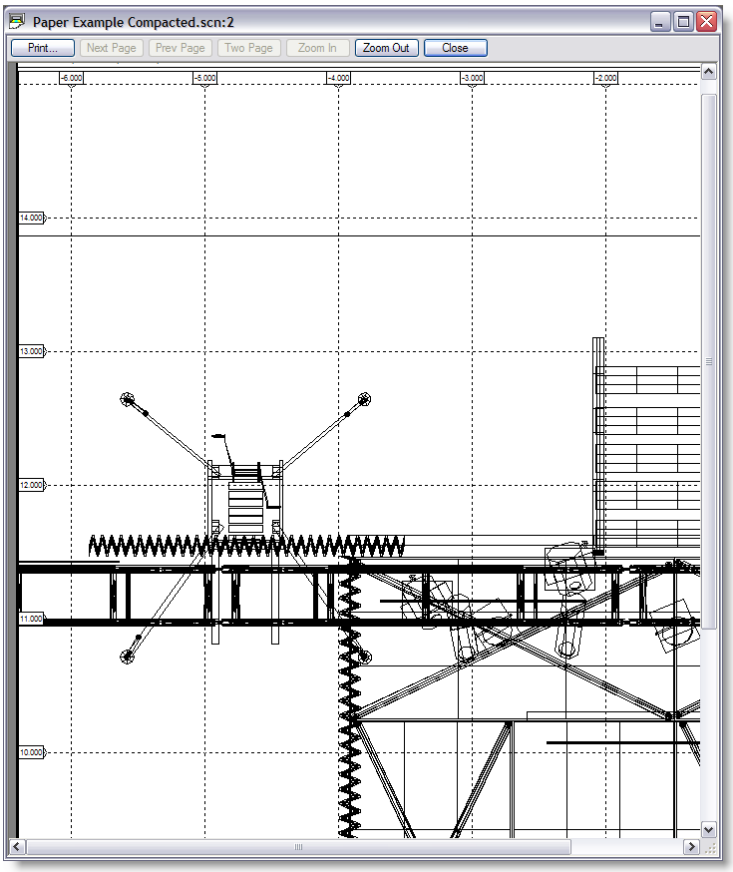

3.21 Fixtures automatically imported in a scene at startup

When creating a new scene, by default some Martin fixture are imported.

It is possible to avoid this.

In the folder "C:\Documents and Settings\All Users\Documents\MSD4\Spots" there is a file called "Default.spt"

This file contains several fixture definition of Martin fixture.

Rename this file so something like "default_.spt"

Now when you start a new scene there will be no fixtures imported.

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Modeler

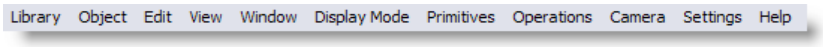
Part IV

4 Modeler

Introduction

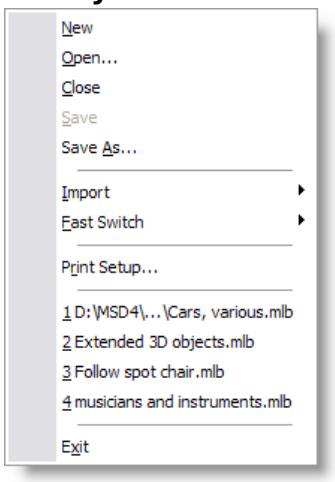
The Modeller is a module of the MSD software package. The Modeller enables you to design and create objects and save them into libraries.
You can use these objects later to create a scene in the ShowDesigner.

4.1 Menu



Library
Object
Edit
View
Window
Display Mode
Operation
Camera
Settings
Help

Library Menu



You will use the entries in this menu to open, close and save files, setup the printer, get information about the program and exit the program.

Library | New

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Shortcut : **Ctrl+N**

This menu is used to create a new library. The system will ask to save any changes to the current library if a library is already open.

Library | Open...

Shortcut : **Ctrl+O**

This menu is used to open an existing library. You will be presented with the standard file dialog in the modellib directory. After you selected a library, the current library will be closed and the new library will be opened. If the current library was changed since the last save you will get the opportunity the save these changes or cancel the open command

Library | Close

Use this menu item to close the current library. If the current library has any unsaved changes you will get the opportunity to save these before the library is closed.

Library | Save

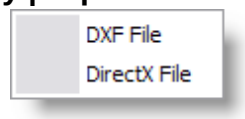
Shortcut : **Ctrl+S**

Save is used to save the current library. If the current library was never saved before, you must enter a name for the new library.

Library | Save As...

This menu item is use to give the library a new name. If you use this option you must select a new name for the library. The library is then saved using this name. Any subsequent saves of the library will be done using this name

Library | Import...



This menu allows you to import other types of libraries like DXF and X format. See Import DXF for more detail

Library | Import | X File

This option allows you to import an X file (in the Microsoft DirectX format).

Library | Fast-Switch

Use Fast-Switch to Re-open a scene edited in Modeller back to the Show Designer or other module. See Fast-Switch for more details

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Library | Print Setup...

This option allows you to setup the current printer.

Library | Recent files

Here you will find the 4 last saved/opened files. By selecting one of these files you can open the selected library.

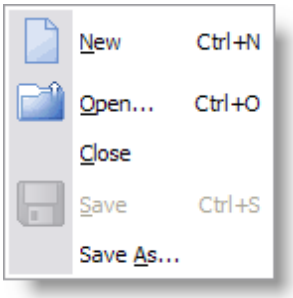
Library | Exit

Shortcut : **Alt+F4**

This option will shut down the program. If there is a library open and if this library has any unsaved changes you will be asked to save these changes or cancel the operation.

Object

You will use the entries in this menu to create, open, close and save objects.



Object | New

Shortcut : Ctrl+N

This menu is used to create a new object. The system will ask you to save any changes to the current object if an object is already open.

Object | Open...

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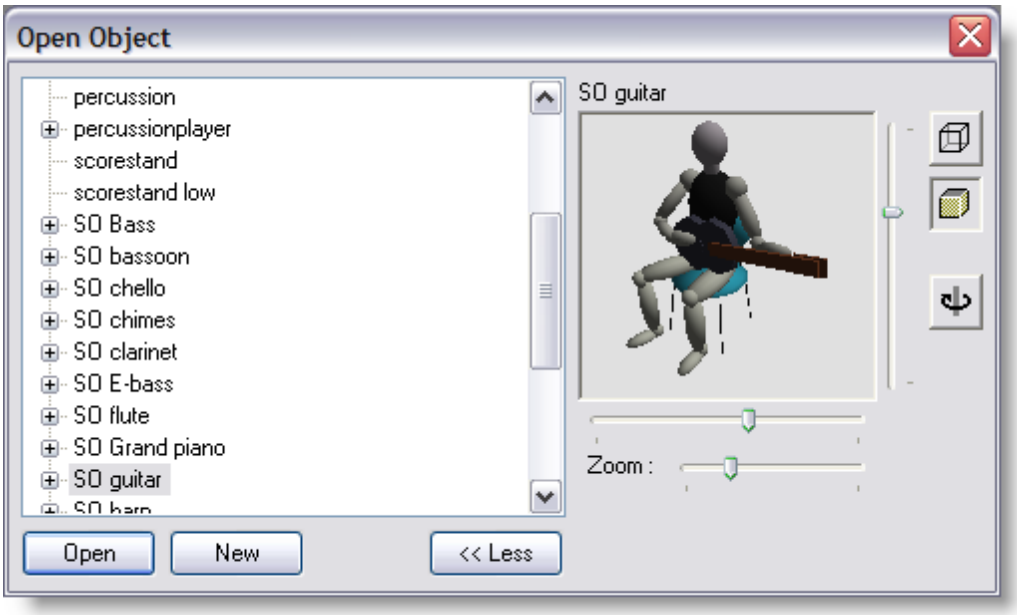

Shortcut : Ctrl+O
This menu is used to open an existing object.
You will be presented with a list of objects present in the current model library. Just like the 'Object List ' it has an optional preview, which you can be (de)activated using the '<< Less / More >>' button.
The object window has a 'tree view', allowing you to see and/or select the (inserted) sub objects of an object. After you select an (sub)object and click on 'Open', the current object will be closed and the new object will be opened. If the current object was changed since the last save you will get the opportunity the save these changes or cancel the open command.

Object | Close
Use this menu item to close the current object. If the current object has any unsaved changes you will get the opportunity to save these before the object is closed.

Object | Save
Shortcut : Ctrl+S
Save is used to save the current object. If the current was never saved before, you must enter a name for the object.

Object | Save As...
This menu item is used to save the object with a new name. If you use this option you must select a new name for the object. The object is then saved using this name. Any subsequent saves of the object will be done using this name.

Edit menu
You will use the entries in this menu to delete, copy and insert objects and fixtures, clear

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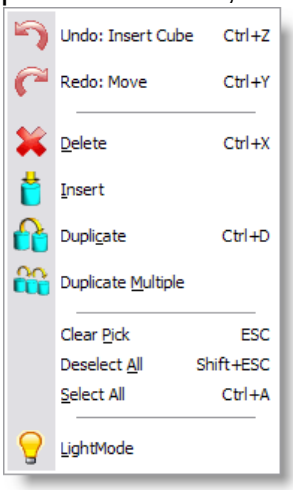
pick or selection, edit layers and switch between 'Light Mode' and 'Normal Mode'.



Edit | Undo

Shortcut : **Ctrl+Z**

This option will undo the last action (if there is one). The text after 'Undo' indicates the nature of the last action.

Edit | Redo

Shortcut : **Ctrl+Y**

This option will redo the last 'undone' action (if there is one). The text after 'Redo' indicates the nature of the last 'undone' action.

Edit | Delete

Shortcut : **Ctrl+X**

This option will delete the picked object.

Edit | Duplicate

Shortcut : **Ctrl+D**

This option will copy the picked object. When you click with your left mouse button inside a window, the copy will be inserted into the current object.

If you keep the mouse button down, you can directly move the inserted copy around until you release the mouse button.

Edit | Duplicate Multiple

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This option will make multiple copies of the picked object. When you click with your left mouse button inside a window, a dialog will appear.
See Duplicate Object or Fixture

Edit | Insert

This option allows you to insert an object from the object list into the current object. See Object List for more information about objects. When you click in a window after selecting this option a list of available objects will appear. The desired object will be inserted after clicking on it in the list.

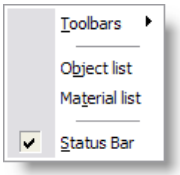
Edit | Clear Pick
Shortcut : **ESC**
This option clears the current pick. If you had something picked, it will be unpicked.

Edit | Deselect All
Shortcut : **Shift+ESC**
This option clears the selection. If you have one or more objects selected, they will be de-selected.

Edit | LightMode

This option activates and deactivates the LightMode. When you are working in LightMode, you can only pick fixtures. All other objects are ignored when you try to pick something.

View menu



You can use the entries in this menu to view or hide the toolbars holding the buttons, the different lists and the status bar at the bottom of the main window. If an item is visible a check mark will be displayed in front of the menu item.

View | Toolbars
This menu is used to show or hide the toolbars. For an overview of all the buttons in the toolbars you can look at the Icon topic.

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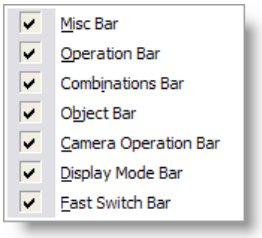
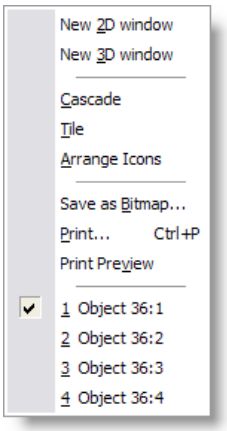


View | Object list...
This option shows the Object List window. In this window you can delete, rename and import objects. In a new library this list will be initially empty.

View | Material list...
This option shows the Material List window. In this window you can edit, copy, import, delete and create new materials. In a new library this list will be initially empty.

View | Status Bar
This menu is used to show or hide the status bar.

Window menu



You will use the entries in this menu to open or arrange windows and to save or print windows.

Window | New 2D window
This option opens a new 2D window.

Window | New 3D window
This option opens a new 3D window.

Window | Cascade
This option will arrange all open windows to be all the same size, stacked one on top of

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another.

Window | Tile
This option will arrange all open windows to be tiled side by side, so all windows will be totally visible.

Window | Arrange Icons
This option will arrange all icons at the bottom of the main window.

Window | Save as Bitmap...
This option allows you to save a window as a Windows bitmap (BMP) or a jpeg image (JPG).

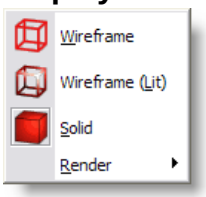
Window | Print...

Shortcut : **Ctrl+P**
This option allows you to print a window. The print will always be in wireframe mode.
See Printing in ShowDesigner Module for more details

Window | Print Preview
This option allows you to preview how a window will be printed.
See Printing in ShowDesigner Module for more details

Window | (Opened windows)
Here you will see how many windows you have open and which is active. You can activate a specific window by choosing its menu item.

Display Mode menu



This menu allows you to select the display mode of a window. It gives you a range of representations of a object.
See Display Mode for more details

Display Mode | Render

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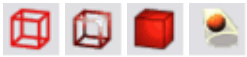

Display Mode, Render menu

This menu will only be available in a 3D window. It allows you to realistic render your object, taking into account lighting, reflection, shadows, smoke etc.

See Rendering for more details

Display Mode | Render | Start

The start option will start the rendering of the Object.

Display Mode | Render | Hold

The Hold option will temporarily stop rendering the window. This might be useful if you are rendering a complex object. By setting the rendering on hold, you get more time to do other things (in this application or another). This option is only available if you are currently rendering in the window.

Display Mode | Render | Resume

The Resume option will resume rendering a window, which was previously stopped by using the Hold option. This option is only available if the window is currently in a 'hold rendering' mode.

Display Mode | Render | Exclusive

The Exclusive option is a special case of the Start option. The exclusive option will also start rendering a window, but if you choose this option, the ShowDesigner application will turn its full attention to the rendering process. This means that nothing else can be done with the ShowDesigner until the rendering process is completed. It can not be stopped! So be very careful to use this option. The only advantage of this way of rendering is that it is faster.

Operation menu

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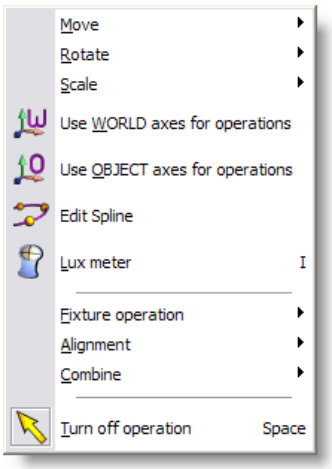
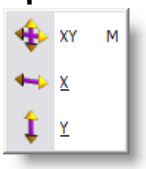


This menu allows you to start an operation on one or more objects and/or fixtures.

Operation | Move menu



The Move operations allow you to interactively manipulate the position horizontally and/or vertically by moving the mouse.

Operation | Move | XY

Shortcut : **M**
This option allows you to move an object or fixture both horizontally and vertically.

Operation | Move | X

This option allows you to move an object or fixture only horizontally.

Operation | Move | Y

This option allows you to move an object or fixture only vertically.

Operation | Rotate

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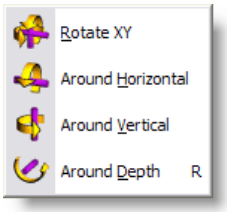


The Rotate operations allow you to interactively manipulate the orientation of an object or fixture.

Operation | Rotate XY

Shortcut : **R**
This option allows you to rotate an object or fixture around both the horizontal and vertical axis.

Operation | Around Horizontal

This option allows you to rotate an object or fixture around the horizontal axis.

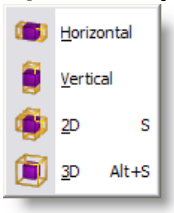
Operation | Around Vertical

This option allows you to rotate an object or fixture around the vertical axis.

Operation | Around Depth

This option allows you to rotate an object or fixture around the depth axis.

Operation | Scale



The Scale operations allow you to interactively manipulate the size of an object.

Operation | Scale | Horizontal

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Shortcut : **S**
This option allows you to scale an object horizontally.

Operation | Scale | Vertical

This option allows you to scale an object or vertically.

Operation | Scale | 2D

This option allows you to scale an object horizontally and vertically.

Operation | Scale | 3D

This option allows you to scale an object uniformly by scaling the whole object by the same amount.

Operation | Alignment menu

Operation | Alignment | Align Chain
This option allows you to align two or more selected objects in a chain like way.
See Align for more details

Operation | Alignment | Align...
This option allows you to align one or more selected object(s) to the active (picked) object. When you select this option, a dialog will appear.
See Align for more details

Operation | Combine menu

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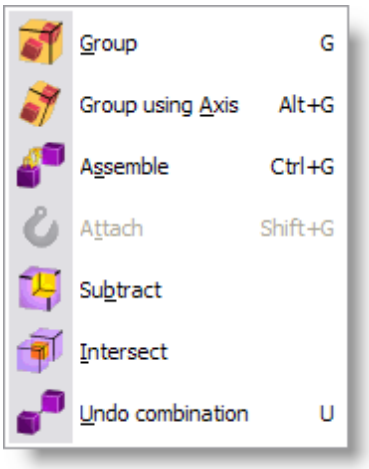

Operation | Combine | Group

Shortcut: **G**

This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Group using Axis

Shortcut: **ALT+G**

This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Subtract

See Subtractive Grouping

Operation | Combine | Intersect

See Intersect Grouping

Operation | Combine | UnGroup

Shortcut: **U**

This option allows you to split a group into its components. Each component will be added to the selection.

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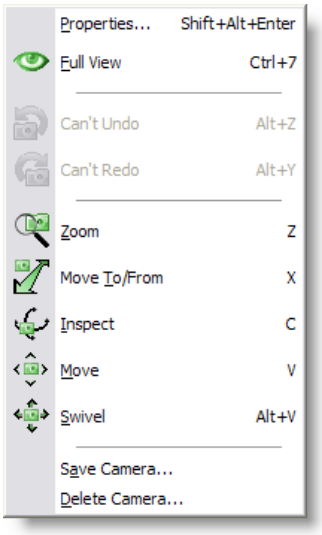
Operation | Turn Off Operation

Shortcut: **Spacebar**
This option turns off all current operation.

Camera Menu



This menu allows you to manipulate the camera of a window.
See Camera for more details

Camera | Properties

For information on the camera properties

Camera | Full View

Shortcut: Double click middle mouse button
This option will try to adjust the camera so that the entire object will be visible in the current view.

Camera | Full View All

This option will try to adjust the camera so that the entire Object will be visible in all views.

Camera | Zoom

Shortcut: **Z**
This option allows you to interactively zoom in/out. In 2D windows, the scale will change

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and in 3D windows, it will be the camera angle that changes.

Camera | Move To/From

Shortcut: **X**
This option allows you to move the camera to and from. In 2D windows, this does the same as the 'Zoom' operation. In 3D windows, the camera is moved forwards or backwards.

Camera | Inspect

Shortcut: **C**
This option allows you to inspect an object by moving the camera around a point. In 2D windows this can only be done if you have an active (picked) object. The camera will move around the center of the object. In 3D windows the camera will move around the center of an active object if there is an active object, otherwise the camera will move around the focus point of the camera.

Camera | Move

Shortcut: **V**
This option allows you to pan up, down, left and right the camera.

Camera | Swivel

Shortcut: **Alt+V**
This option allows you to look around with the camera. In 2D windows, you can move around then view plane, and in 3D windows you can look around by tilting the camera from left to right and from top to bottom.

Camera | Save Camera...
This option allows you to save a 3D camera position, giving it a name. The camera will be stored with the library file.

Camera | Delete Camera...
This option allows you to delete one or more cameras (from this library file).

Settings menu

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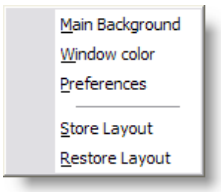


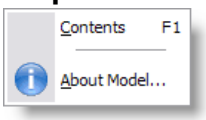
This menu allows you to adjust the appearance and preferences.

Settings | Main Background
This option allows you to change the appearance of the background of the main application window.
See settings for more details

Settings | Window color
This option allows you to change the background color of the 2D-and 3D windows.
See settings for more details

Settings | Preferences
In the preferences dialog you can set your preferences. Some are local (apply only to the ShowDesigner module), some are global (they may apply to all Martin ShowDesigner modules). The preferences are arranged into groups, with each it's own page (page). Each page ('Render Settings', 'Snap', 'Grid', 'Units', 'Detail', 'Gamma', 'Auto Save', 'Paths' and 'DirectX driver') will be explained next.
Render Settings page
See Settings for more details

Help Menu



Help | Contents
Shortcut : **F1**
This option will display this help text.

Help | About Model...

This option will display a window in which you can get information about the program. By clicking on the info button you will see information about the current installed version, the installation date, the serial number of the program and the name with which the program

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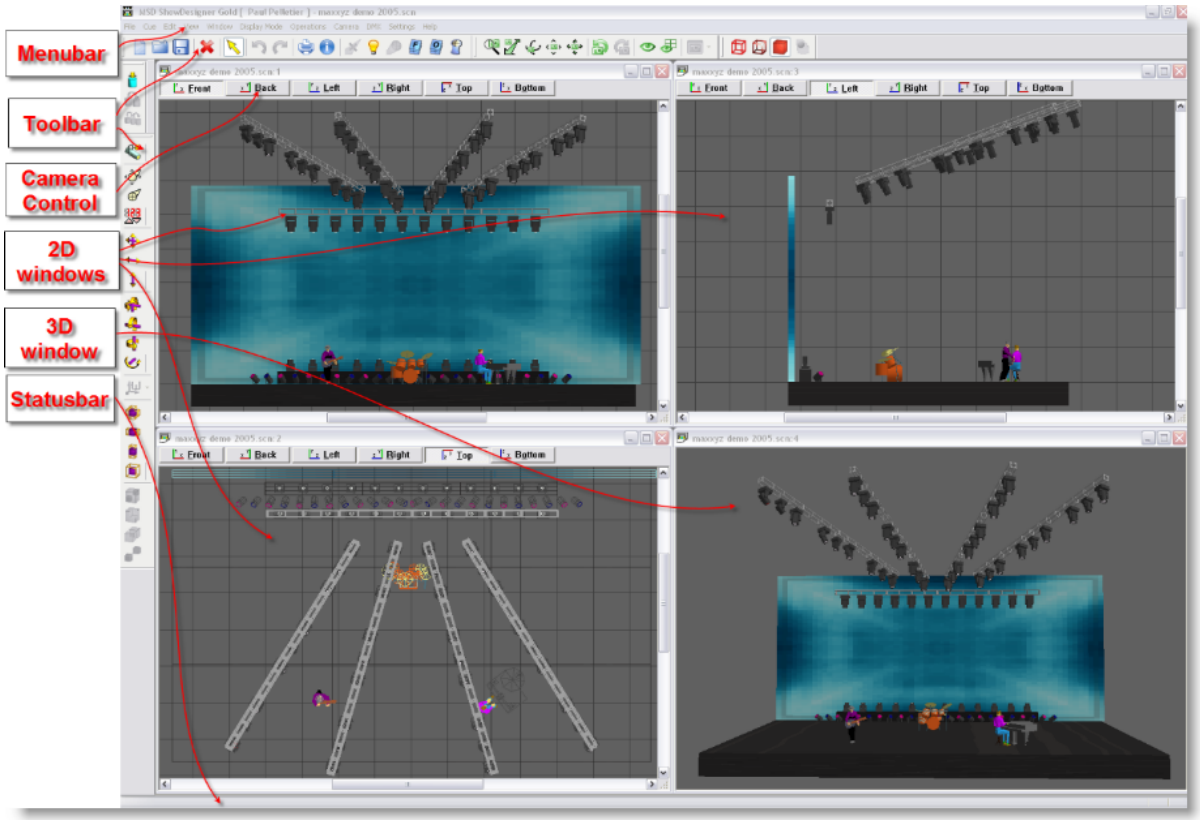
was installed. By clicking again on the (now 'Version') button, you

4.2 Layout

.



The application window has a menu bar, a status bar, toolbar's, 2D windows and 3D windows.
The menu bar will be covered in Menu the toolbar's in MSD Icons, 2D windows and 3D windows in Window Management.

To build a similar layout as above, simply insert 3 2D views and 1 3D view.
From window menu click Tile.
Set the 2D view one as TOP, one as Left and one as Front
In each view, set the Spot Beam Properties to Never
Then in the menu Settings, click on Store Layout.

4.3 Windows Management

The program has 2 types of windows, namely 2D windows and 3D windows.
Each window has its own capabilities, although many are available in both.
You can not change one type of window into the other, but you can open as many windows of both types as you like.
(Opening a window can be done by selecting 'New 2D window' or 'New 3D window'

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from the menu (see 'Window Menu ').
Both types of windows are further explained in the following sections.

2D Windows

2D windows give you an orthographic view of your scene. You can work in one of six views, namely Front, Back, Left, Right, Top and Bottom.

- You can change between these views by clicking one of the 'Camera buttons' in the top of a 2D window. By clicking on the current (down) camera button, the position and scale of the camera will be adjusted so the entire scene will be visible. If only a part of the scene is visible (when you are zoomed in) you can pan through the scene with the vertical and horizontal scrollbars at the right and bottom of the window. You can also hold the middle mouse button and drag the mouse around to pan up, down, left and right
- The 2D window also has a grid to enhance orientation in the object. The size and color(s) of the grid can be set in Grid settings
- In the 2D camera properties dialog of a 2D window you can set the camera position, the scale and if the grid should be visible in this view.
- It can be viewed in wireframe mode or solid mode

Wireframe

Solid

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3D Windows

3D windows give you a perspective view of your scene. Here you can view the scene from any point and with different camera angles. The 3D window has some features the 2D window has not:

- You can use the 'Render' display mode to calculate a realistic image.
- You have an inspect mode, which will rotate your camera around the Y-axis of the scene. You can start and stop the inspect mode by clicking the right mouse button in a 3D window and selecting 'Other', 'Inspect Object' in the appearing context menu.
- In the 3D camera properties dialog of a 3D window you can set the camera position, the focus point (the point you are looking at) and the camera angle.
- It can be viewed in wireframe mode or solid mode

Wireframe

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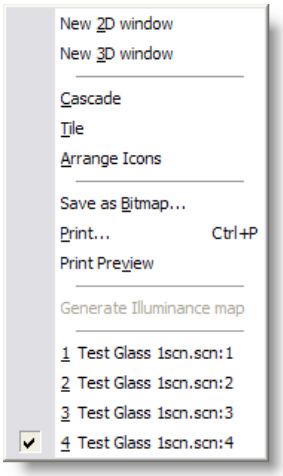
Solid

Using multiple windows
So far we have only had one window open. It is possible to open up as many windows as you like at the same, each one viewing your scene from a different angle. To get you started a simple 4 window set will do.

Click on the Window menu, then click on New 2D Window



· Repeat this process so you have 3 windows open

· Click on the Window menu again and click on New 3D Window

You should now have 4 windows open. Using the mouse you can move and resize the windows until they are laid to your satisfaction. To make it easier, open the Window menu again and click on Tile. You now need to save this setup, so you can go back to it again in the future.

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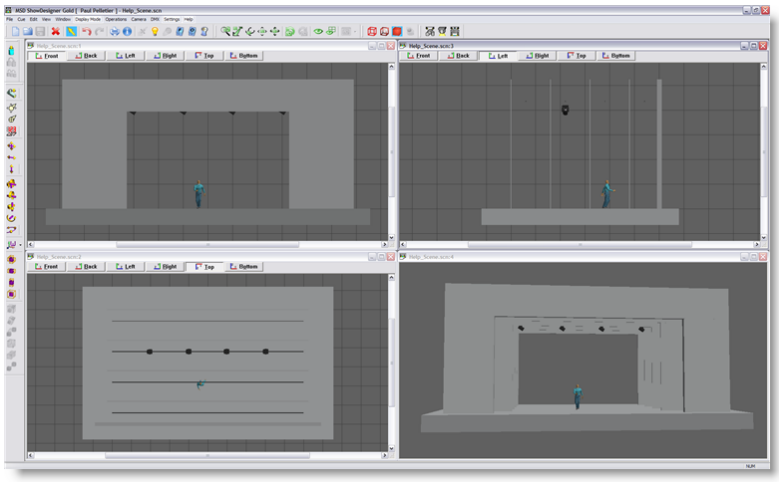
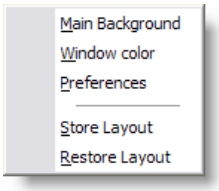


Click on the Settings menu, then click Store Layout



This will save the layout. To return to it at any time, click on the same menu and click Restore Layout.
If you wish to look at one view in more detail, simply click on the maximize button on the window itself. When you want to return to the previous view, click on the restore button.
2D views

See Using Camera for more details

Main Background
You can choose what you have as the main background, behind all the windows on the screen.
Click on Settings and then Main Background.
You then have a choice of nothing, using the main windows image or setting your own image.
See settings for more details

Window Color
To change the color of the background in each window, to something other than black, click on Settings and Window Color. Then choose your color from the list or create your own and click OK
See settings for more details

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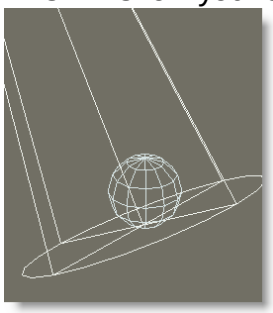
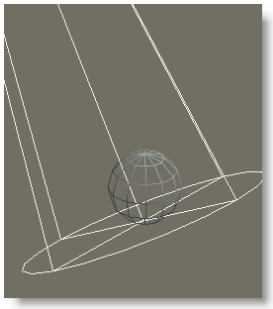
4.4 Display Mode

There are 4 different display modes (Wireframe, Wireframe lit, Solid and Render). Each display mode shows you a different representation of the scene.

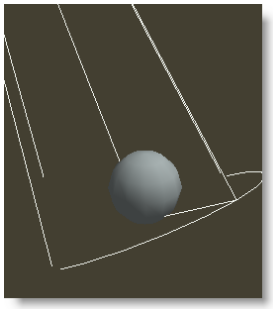
Wireframe
This option will show the objects in wireframe mode.
This will show your objects as solid lines with a single color.



Wireframe Lit
This option will show the objects in wireframe lit mode.
This will show your objects as colored lines, lit by a single light source.



Solid
This option will show the scene in solid mode.
This will show your objects as fast, solid, simple shaded objects, lit by a single light source.



Render
This option will calculate a realistic image of the scene, lit by the fixtures in the scene

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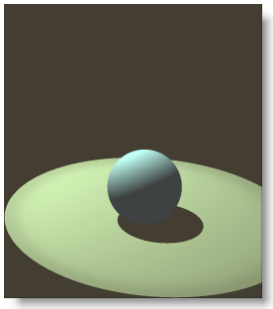
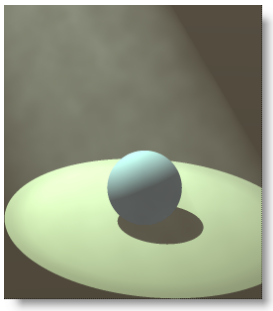
(with their fader, iris, zoom angle gels and gobo settings).
During the calculation of the image, shadows, reflections, transparency and even smoke can be taken into account.
Depending on the complexity of the scene and the selected options, this calculation may take a while.



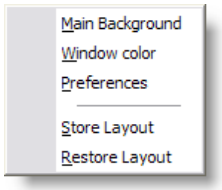
Render with Smoke



4.5 Settings

Various settings that can be change to tailor the MSD to your need.

From the menu click on Settings



Main Background

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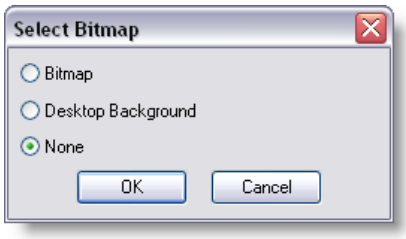
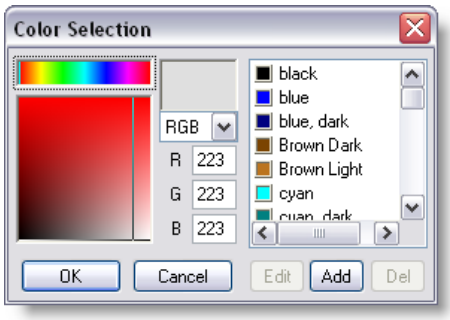


This option allows you to change the appearance of the background of the main application window.

Window Color



This option allows you to change the background color of the 2D-and 3D windows.
Use this to change background form a dark color to a light color or vice-versa to have a contrast between objects and background.

Click here for Preferences help

Store Layout

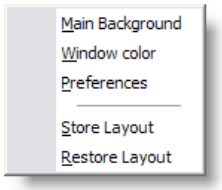
This option allows you to save the layout of the program. It will store positions and sizes of the application windows,
the 2D and 3D windows, and the lists (Object, Fixture, Material and Cue).

Restore Layout

This option allows you to restore the layout of the program by loading the saved settings.

4.5.1 Preferences

From the menu Settings, click on preferences



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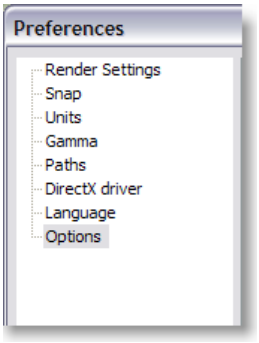
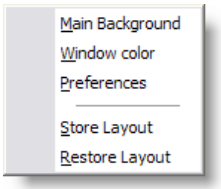


Rendering Default Settings

Object Snap
[****]
System Units
[****]
Gamma
[****]
Paths
[****]
DirectX
[****]
Language
[****]
Preferences Options

4.5.1.1 Rendering Default Settings

To set the default Rendering settings, from the menu Settings, click on Preferences



click on Render Settings

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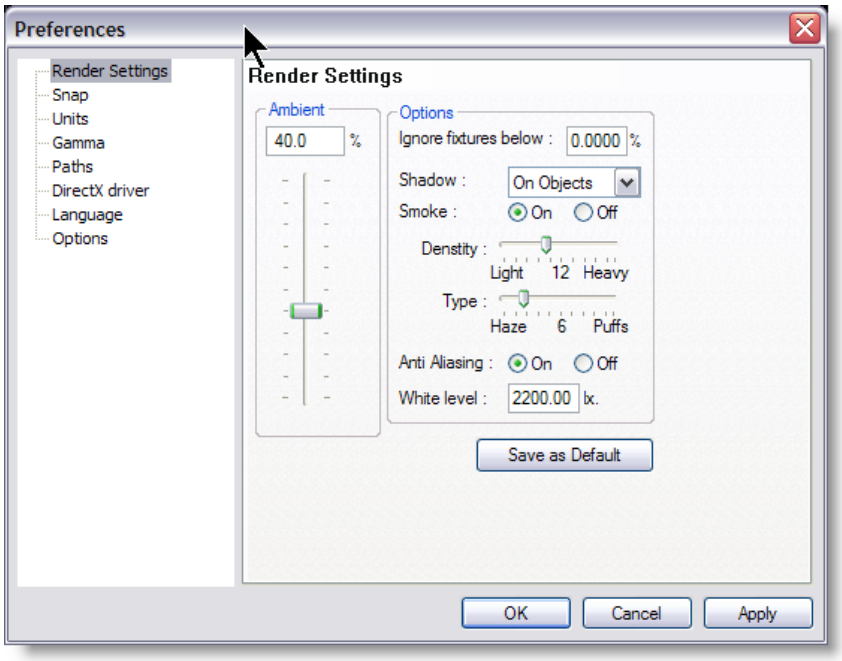
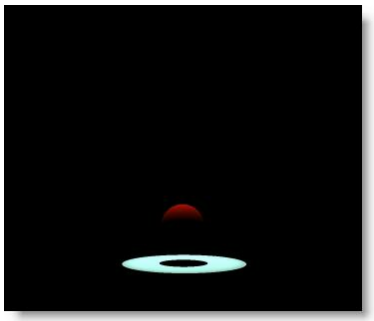


Default Render Settings

These settings are the one used when clicking on the Trace/Shadow icon while in a 3D view
The Same settings will appear in the alternative way to start a rendering.

- **Ambient**
  Controls the general lighting level in the scene.



Ambient @ 0%

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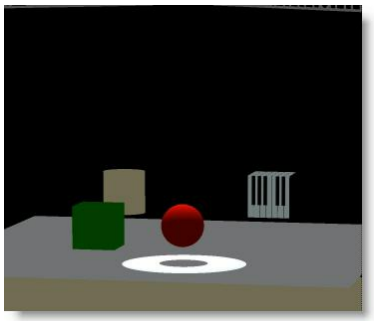
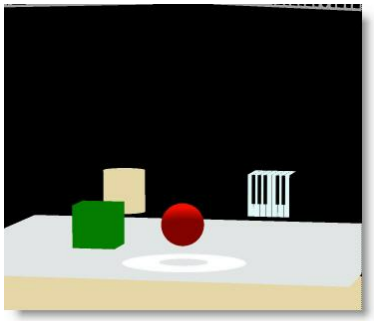


Ambient @ 50%



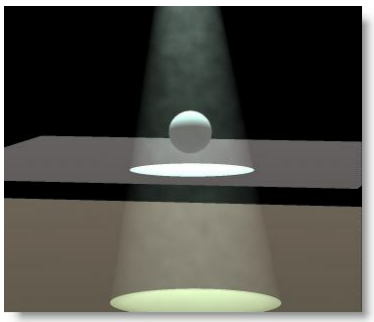
Ambient @ 100%

- **Ignore Fixture Below...**

  Any fixtures below the percentage set here will not be shown

- **Shadow**

  Controls whether shadows show up on objects, everything or nothing at all. Less shadows will take less time to render.



Shadow= None

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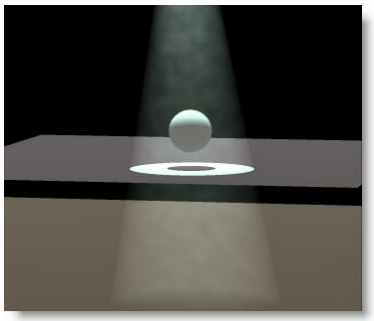
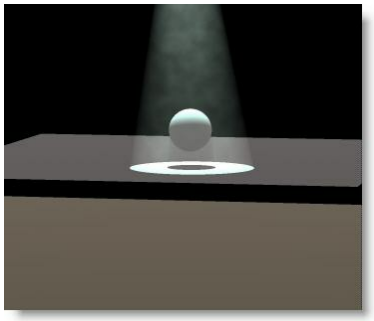


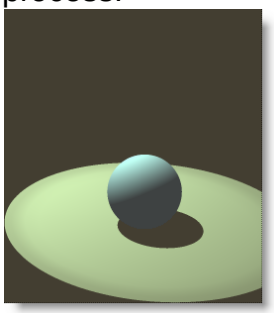
Shadow= On Object (smoke rays goes through objects)



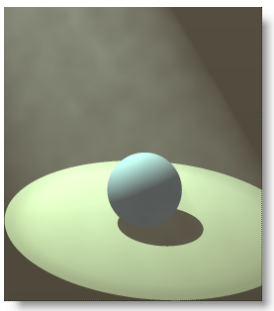
Shadow= Always

Smoke

Turns smoke or haze in the atmosphere on or off. Smoke on slows down the rendering process.



No Smoke



With Smoke

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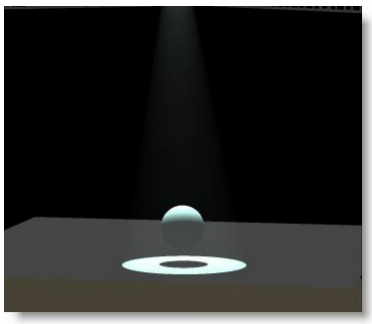
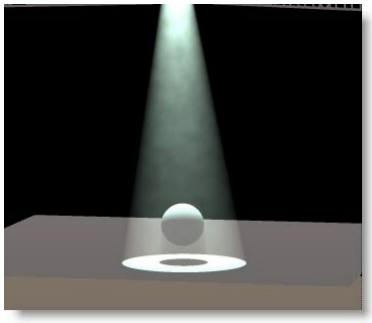
- **Smoke Density**

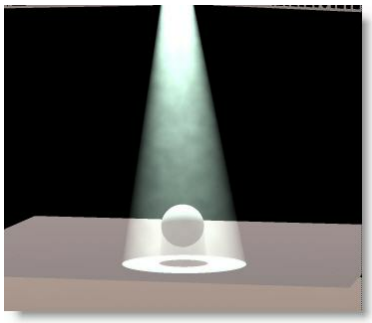
Controls the level of smoke in the scene.



Smoke Density @ 1



Smoke Density @ 15



Smoke Density @ 30

- **Smoke Type**

Controls whether the smoke is evenly spread out, like a haze machine or in puffs like it might be from a smoke machine.

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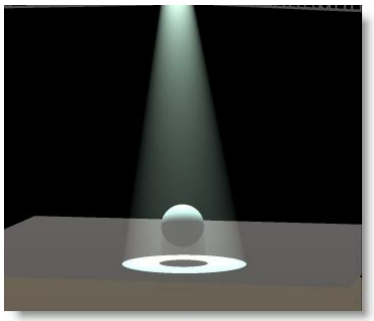
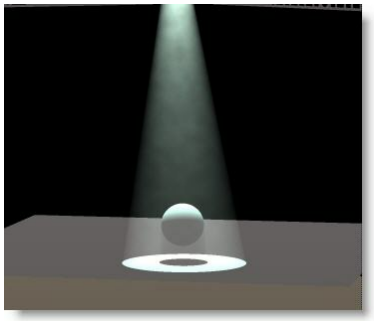
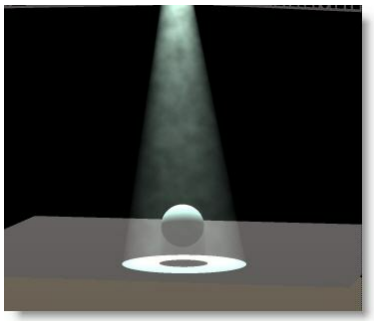


Smoke Type: Haze @ 1



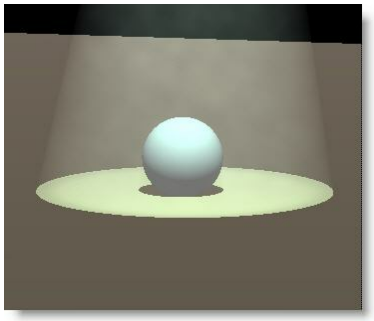
Smoke Type: Haze / Puff @ 15



Smoke Type : Puff @ 30

- **Anti-Aliasing**

Anti-Aliasing is a process that soften the edges in a rendering process. It does take a little more time, but makes rendering more natural.



Without Anti-Aliasing

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approximately-*Aliasing*

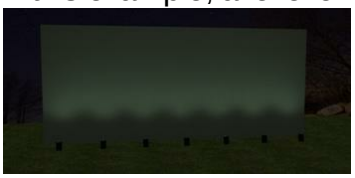
- **White Level**

Imagine the White level as the eyes sensitivity or camera sensitivity. It could be explained as the amount of light require to have a white surface looking white...

The default value of 2200.00 lux (200 foot candle) is appropriate for more stage rendering

However, for exterior architectural rendering a setting of 800 lux (75 foot candle) could be more appropriate...

In a relatively low ambient light level, the eyes is more sensitive, let say 500 lux
In a normal ambient light level the lux level for white is approximately 2200 lux
In a situation when you have light blasting directly in the camera, a level of 5000 lux could be used...
Here's some example of the same scene render at different white level.
In this example, a level of 1000 lux appears to be normal.



White Level @ 5000

White Level @ 2200 (Default)

White Level @ 1000

White Level @ 500

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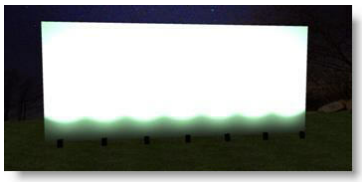
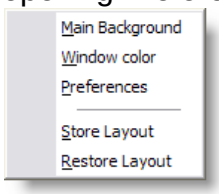


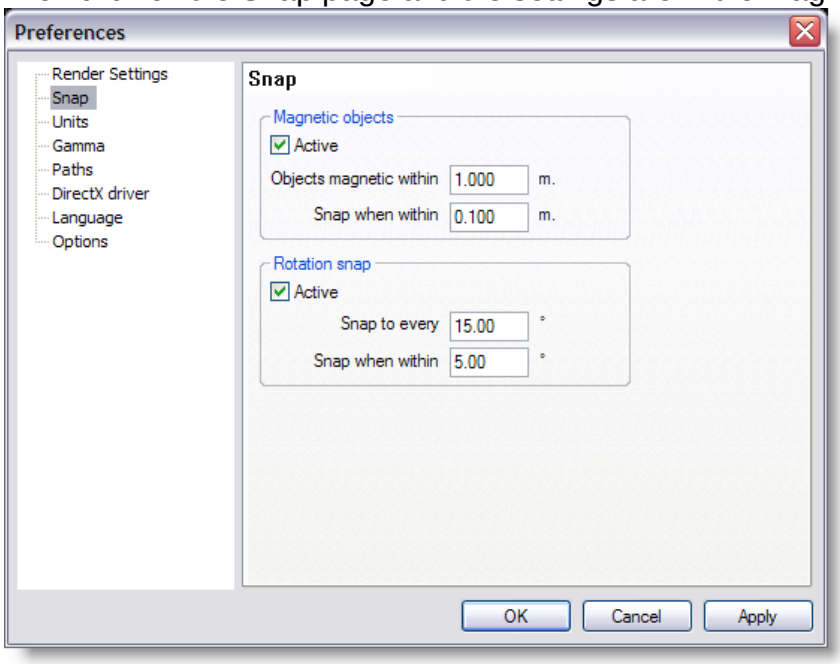
White Level @ 100

4.5.1.2 Object Snap

The magnetic snap effect.
The default settings for the magnetic snap system are set so an object will become magnetic when it gets within 1m of another object and it will snap the to the object when it's within 0.1m. You can adjust these settings by clicking on the Settings menu and opening Preferences.



Then click on the Snap page and the settings are in the Magnetic box.



You can even turn the magnetic effect off.
Here is how the effect works, this example assumes you leave the settings at their default value.

When objects are more than 1m apart, nothing happens.

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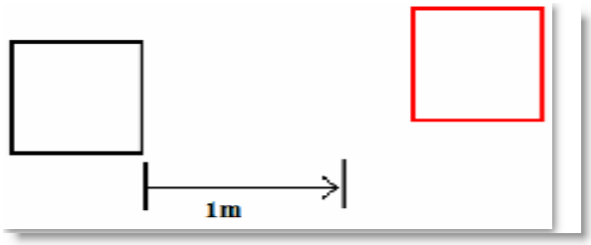
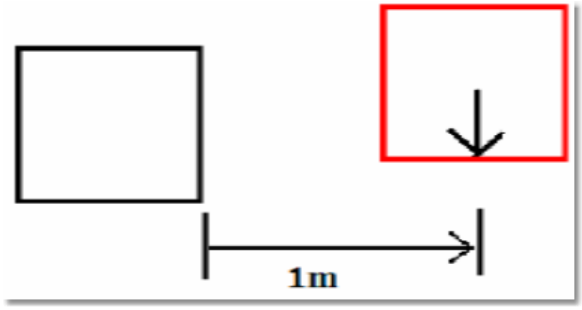
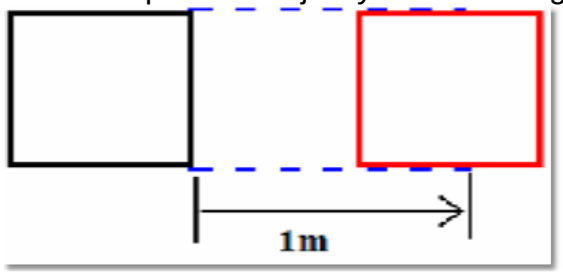


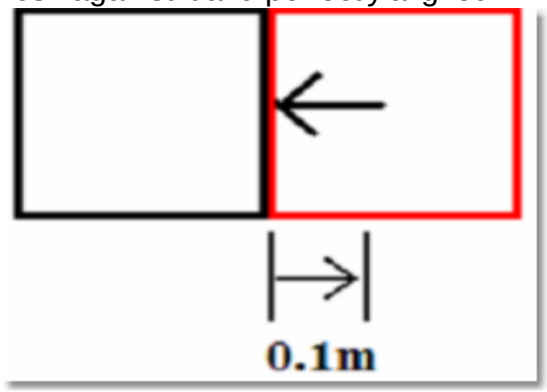
When you move an object to within 1m, the magnetic effect starts to work.



The effect pulls the object you are moving into alignment with the other object.



When you move the object to within 0.1m it is pulled up against the other object, so it is flush against it and perfectly aligned.



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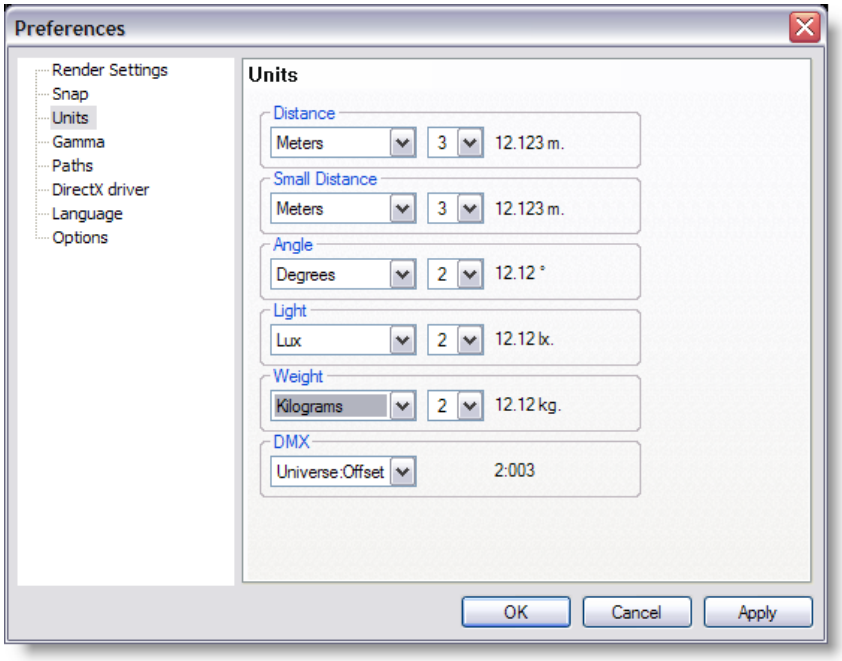
4.5.1.3 System Untis

The MSD can work in both Imperial or Metric system.
At any point in the creation process you can switch from one system to the other, call values will be converted as indicated
For each settings the precision (number of decimal digit) can be set.



Distance

Set the unit values to enter position and dimensions of objects
- Distance: Meters, Millimeters, Inches or Feet & Inches.

Imperial value must be enter as follow
1'2" = 1 foot 2 inches
When using Feet&Inches, enter a value with no comma or quote will be considered as inches

Metrics value can be set in Meters or Millimeters

Small Distance

The small distance unit is used when the distance to enter is small like in the margins in

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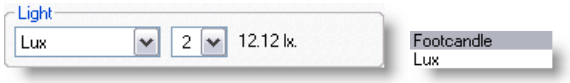
paper or the line thickness when importing DXF.
When using metric units the normal distance unit is meter, but this would result in a lot of 0,00x numbers when dealing with these small sizes.
To make this more readable we added the extra small distance unit, so the user can display these small numbers in mm or inches.

Angle

- Angle: Degrees (360°), Radials (2p) or Gradients (400°).

The most common settings for Angle is Degree.
In some situation Gradient or Radial degree can be chosen.
See Formulas for more details in angle types

Light



- Light: Lux or Foot-candle.

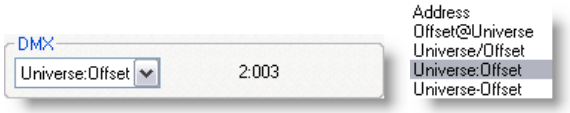
In MSD, it is possible to calculate the amount of light at a specific point on a surface.
The light intensity can be displayed as Lux or FootCandle.

Weight

- Weight: Grams, Kilograms or Pounds.

In the Paperwork module, it is possible to see the fixture weight.
It can be displayed as Grams, Kilograms or Pounds.

DMX



Various ways of displaying DMX addresses are possible in MSD
Offset is the DMX address.
Universe is the DMX link

4.5.1.4 Gamma

The Gamma page contains global preferences for the way your monitor displays colors

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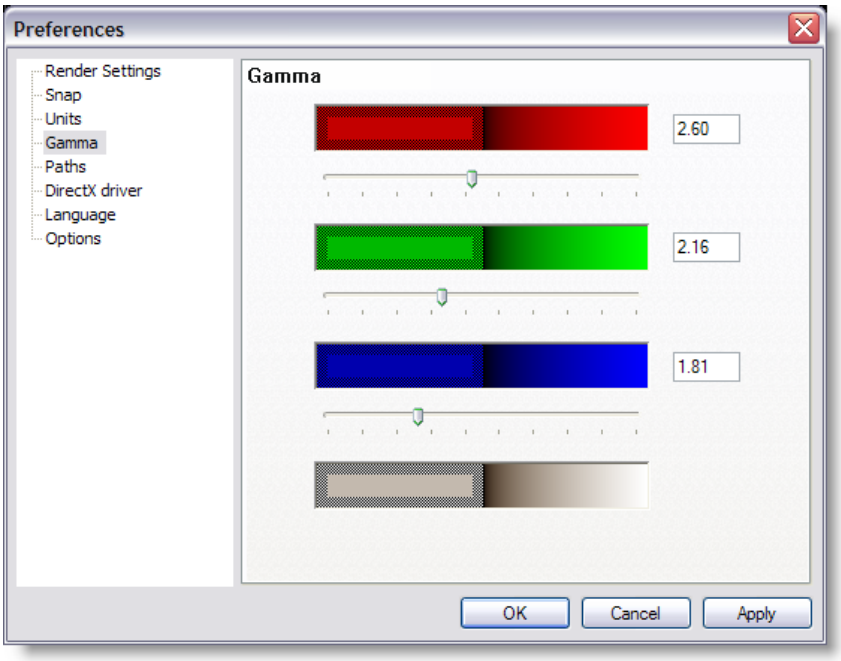

In this page you can set the way the program adjusts colors. Determining how the colors should be adjusted is done by using the three sliders and/or values.
There are four color sections, one for red, green, blue and gray each. Every section has an outer area and a center area. The outer area is a dithered pattern of pixels with luminance values of 0% and 100%, and the center area contains pixels with a luminance value of 50%. So to get correct values, the inner and outer area should be optically of the same intensity. Use the scrollbar and/or edit box to adjust the image's gamma level so that the inner areas and the outer areas are of equal brightness. The correction value that synchronizes their luminance is the gamma level of your monitor.

4.5.1.5 Paths

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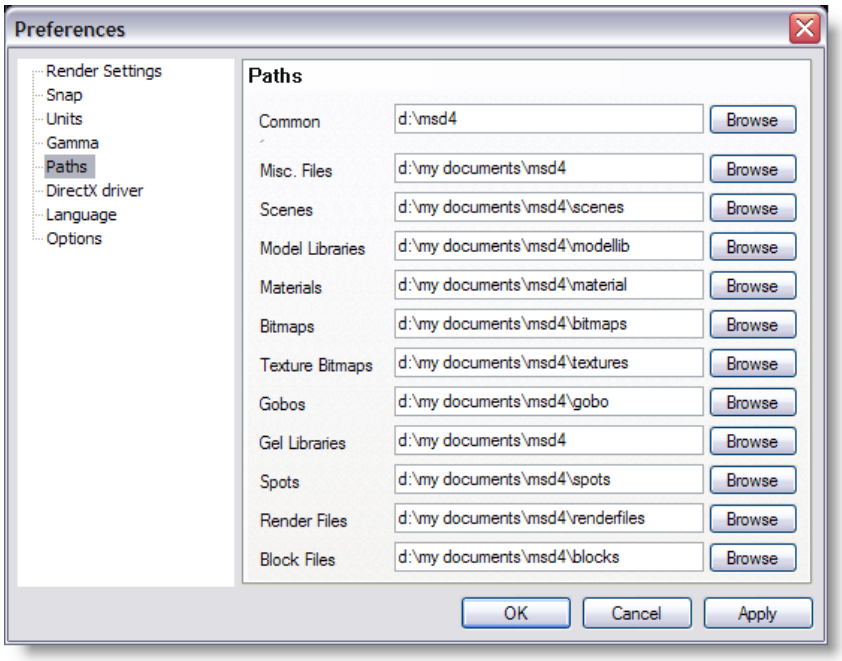

In the Paths page, the default paths to the different kind of files are set.
By default they point to the installed subdirectories. Normally you don't have to change any of them.

Common: Is the location of the default MSD files such as fixtures, textures, demo scenes etc...
By default the location is "C:\Documents and Settings\All Users\Documents\MSD4"

The other fields are the locations on user files, meaning the file you create.

When open a window to import or load something is MSD you will notice two buttons at the top left (User and Common)
Click one of the buttons to access the right folder set.

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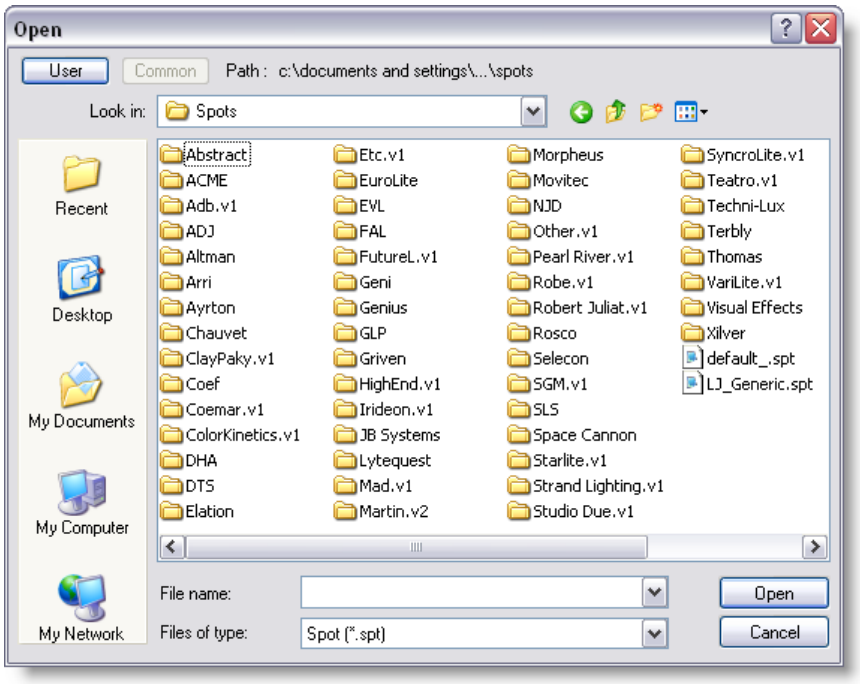

As a rule, put all the file you create or add manually to the user folder set and leave the Common folder as default.
Only add files to the common folder when updating from the official MSD library.
This will ensure the integrity of the files you use and also avoid that your modified library gets overwritten when updating the new library.

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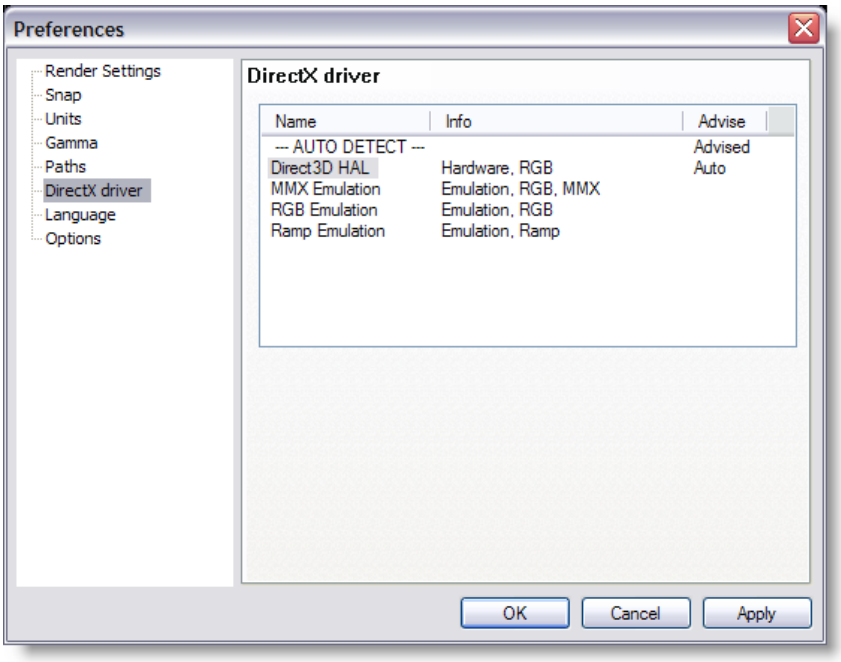
4.5.1.6 DirectX



In this page you see which DirectX drivers are available, and you can specify which driver you want to use.
The drivers are listed in order of preferred capabilities. Default, the first ('--- AUTO DETECT ---') will be selected.
When this option is selected, the program will automatically select a driver on its capabilities.
If you have problems with the automatically selected driver, you can override it by selecting one of the other drivers.

DirectX means all graphical calculation are handled by the Graphic Card processor
In MMX Emulation, the calculation are now handled by the main processor.
Generally DirectX mode is faster.

If you encounter some strange result in the display when using MSD, the first thing is to make sure you have the latest video driver for you Graphic Card.
Most video drivers that comes on the graphic card bundle CD are old drivers, so please check with the card manufacturer.

If updating the driver doesn't help, try switching to MMX emulation.

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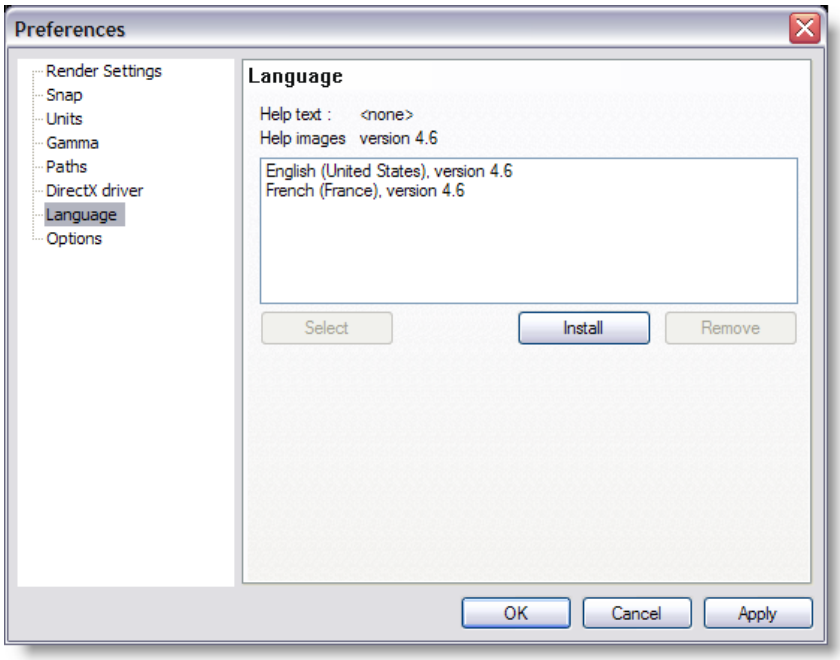
4.5.1.7 Language



In this page you see which help language is currently selected (and which are available).
You can select one from the available list by clicking on it and then press the 'select' button.
You can remove one or more languages by selecting them, and then click on the 'remove' button. (On Windows2000 this can only be done by a user with administrative rights)
You can (re)install help files (if available) by clicking on the 'Install' button, after which a dialog will appear.

In this dialog you will see all available language versions in the selected directory.
If there are no versions available, you can use the 'manual folder' button to browse to a directory which does contain a help version.
On the ShowDesigner CD, the folder you need is 'D:\manuals' (if D is your CDROM drive). From the available list you can install one or more versions by checking the checkbox in front of them, and then click OK.

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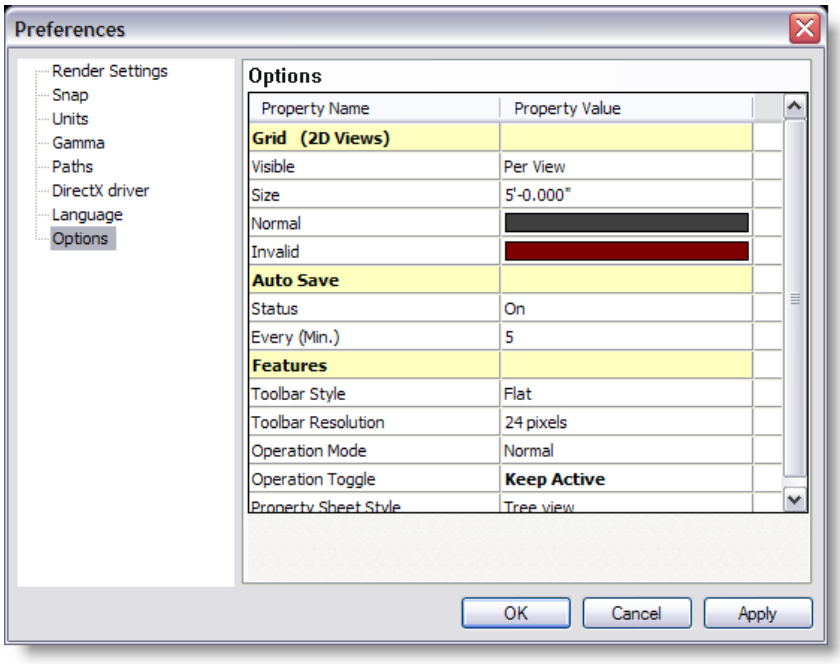
4.5.1.8 Preferences Options

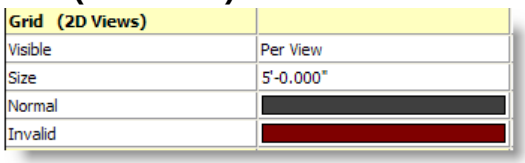


Grid (2D Views)

Auto Save

Features

Grid (2D Views)



You will have noticed that every 2D view has a grid in the background. The default setting for this grid is 1m. This means every square you see is 1m by 1m in size.
If you zoom out eventually you will notice the grid change. As the grid becomes impossible to use when you zoom out, it replaces it with a larger grid. It also changes the color to you know this has happened.
You can change the settings for your grid by going into the main Preferences window, (under the Settings menu) and clicking on the Grid page.

You have the option to change the size of the grid, the colors used and even decide if you want the grid on, off or on in some windows and off in others (per view).

If you wish to turn a grid off in one particular window:

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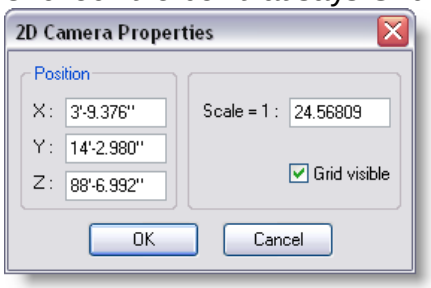
Ensure you have set the main preferences to '**per view**'

Back to the Show Designer window, Click on the 2D window you wish to change, to make sure it's active
Press Alt + Shift + Enter
Uncheck the box that says Grid Visible



Click OK

Auto Save

Auto Save	
Status	On
Every (Min.)	5

When set on a backup scene is saved at specified interval.
The back files are place is the User folder
The temporary file will look something like 'Backup 05_29_00 14_46_20.scn', which means its a Scene backup, created at 14:46 on May the 29th 2000.

Features

Features	
Toolbar Style	Flat
Toolbar Resolution	24 pixels
Operation Mode	Normal
Operation Toggle	**Keep Active**
Property Sheet Style	Tree view

Toolbar Style:

Toolbar Resolution:
24 Pixels are the new icon style, it's always possible to revert to the Classic icon...

Operation Mode:
The choices are Normal or Bounding box
This is the way objects are displayed while moving a camera view
In Normal the objects remain visible, bounding box will make the object disappear and show a wireframe box
for slower video card bounding box can be use to accelerate the movement

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Operation Toggle
The choices are Toggle or Keep Active
In toggle mode, every time you press an hotkey such as M for move, the operation will be toggled (on or off)
In **Keep Active** mode, pressing a hotkey while this operation is already selected, the operation remain active.

Use the Spacebar or the Icon to turn off the current operation.

4.6 Primitives

You can create an object by constructing it with a number of primitives.
Each primitive also has a number of parameters to adjust its shape to fit your needs (see 'Primitive properties ').
There are seven primitives. For each primitive we show you the basic shape and some adjusted forms of the primitive:

You can perform various interactive operations on primitives (like move, scale and rotate). A lot of these operations are available from the toolbar; the rest can be selected from the menu. To use one of these operations you do the following steps:

1. Select the operation from the toolbar or the menu.
2. Click on the primitive you want to use with this operation, this primitive will become picked.
3. While holding down the left mouse button, drag the mouse
4. You can now cancel the operation by clicking the right mouse button.
5. If you let the left mouse button go, the operation will be finished and the changes will be shown in all the windows currently open (except windows in the render display mode).
6. If you want to perform the same operation again you can start at step 2.

We recommend you use the interactive operations mainly in the 2D window, because using them in the 3D windows can sometimes have unexpected results. You can pick a primitive by clicking the left mouse button inside the primitive. There can be only one picked primitive at one time, and this primitive will have a red box drawn around it. Because primitives can be behind other primitives, you will need a method to pick these obscured primitives. This is done by repeatedly clicking (not to fast, because this will count as a double-click) without moving the mouse. On the first click the primitive nearest to the camera will be picked, the next click will pick a primitive further away. This continues until the furthest primitive is picked, the next click will then pick the nearest primitive again.
If you want to perform an operation on a primitive that is obscured by others, it is often helpful to first pick the correct primitive and then select the correct operation. To start this operation however you would need to click in the window again, possibly picking another primitive. To avoid this picking of another primitive, you can hold down the 'ALT' key. When the operation is started you can let go of the 'ALT' key.

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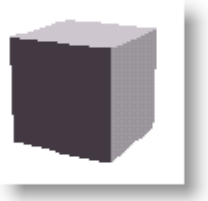
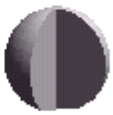
In short, the 'ALT' key prevents the system from picking another primitive when starting an operation.

Some operations, like group and align, require more than one primitive to work with. In an object there can only be one picked primitive, so these operations require something else, they require selected primitives!
Before you can select a primitive you first have to pick it. After you have picked the primitive you can open the context menu of the window (by right clicking in the window); in this menu you see an option called 'Select'. This option will select the primitive. Primitives that are selected are drawn with a green box around them. To unselect or deselect the primitive; you use the same menu option.

A quick way to deselect all primitives in the object, is by using the menu option 'Edit | Deselect All'. (This menu item has the shortcut Shift-Esc).
A quick way to select all primitives in the object, is by using the menu option 'Edit | Select All'. (This menu item has the shortcut Ctrl-A).

Besides the interactive operations described above there are also so called 'property sheets'. Property sheets are dialogs containing a number of pages (or pages). These are described in the section 'Properties ' of this manual.

Primitives

Cube:			
Cylinder:			
Sphere:			

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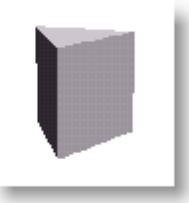
Toroid:			
Triangle:			
Rectangle (2D):			
Circle (2D):			

4.7 Primitives Properties

Properties

You can change most of the parameters of primitives and light-sources by using the property sheets. You can get the property sheet of picked primitives by right clicking in one of the windows containing the object. Doing this will show you the context menu, in which you can select options specific for that window. One of these options is 'Properties'. Selecting this menu option will display a dialog with multiple pages. This dialog is called a property sheet. Below the page windows you see three buttons, called 'OK', 'Cancel' and 'Apply'. You use the 'OK' button to accept the changes and close the property sheet. The 'Cancel' button just closes the property sheet without accepting the changes. The 'Apply' button can be used to accept the changes without closing the property sheet, this allows you to check the new settings and edit them if necessary without repeatedly opening the property sheet.

Following is description of the properties of primitives and the light-sources, beginning with the pages common to all primitives, and ending with the pages for the light-sources.

Primitive properties

The following two pages can be found in the property sheet of all primitives.

Orientation page

The first common page is the 'Orientation' page.

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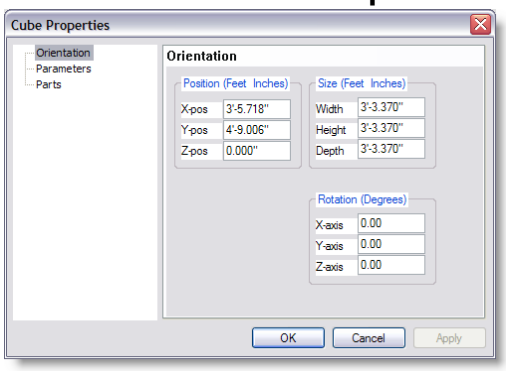
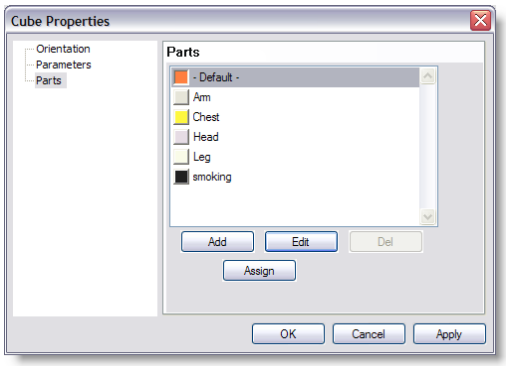
Primitive: Orientation of primitive



This page lets you enter the exact position, size and orientation of the picked primitive. The page is divided into three parts. At the top left you see three edit fields for the position. Next to the position you can see the fields for the size and below that you see the fields for the orientation. In this page you can enter the position and size in meters and the orientation in degrees, this can be changed in the user settings property sheet (see 'Settings Menu ').
Parts page

The second common page is the 'Parts' page.

Primitive: Parts



The parts page allows you to manage parts in this object. All primitive used in the open object belong to a part. All primitives belonging to the same part have the same color or material.
Every new object will automatically belong to the '- Default -' part. This '- Default -' part is special, because it can be overwritten in groups or inserts in other objects. When you select a part for a group or inserted object, all primitives contained in that group (or insert) that belong to the '- Default -' part will become part of the selected part for the group (or insert).
With the buttons under the list you can 'Add' new parts, 'Edit' parts and 'Del' to delete them. After clicking on the 'Assign' button, the picked primitive will become part of the selected part. When you add a new part or edit an existing one, you will be presented with the following dialog.

Edit part description

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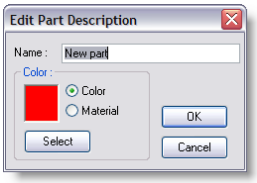
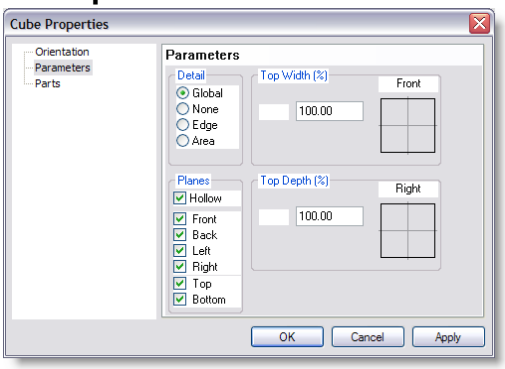


In this dialog you can change the name of the part and change the color or material attached to that part. By default a part has a color, which can be changed by clicking on the 'Select' button. The color selection dialog will then be displayed, letting you select another color.
By selecting the 'Material' button you can attach a material to the part, again you can use the 'Select' button to select the correct material. A list of available materials will be displayed, in which you can select one. This list is managed using the 'Material List '. An exception to this is the '- Default -' part; this part can not have a material.
Parameters page

Cube parameter



This page is used to change the appearance of the picked primitive.
In the top left corner you can see an area labeled 'Detail'. This is used to change the subdivision of large areas. The quality of solid-mode lighting will improve with a higher subdivision. There are four options for this detail level.

- 'Global' : The subdivision is controlled by the global system settings .
- 'None' : No special subdivision is performed
- 'Edge' : All curves will be more subdivided
- 'Area' : Curves, as well as large planes will be more subdivided

On the right side there are two areas called 'Top width' and 'Top depth'. The fields in these areas can be used to change the dimension of the top plane relative to the bottom. Making both these parameter 0 for instance will result in a pyramid. The drawing next to the fields gives a impression of the result of the changes.
The last area in this page is the 'Planes' field. In this field you can make the primitive solid or hollow. When you select hollow, you can also remove some of the planes. (there should be at least one plane selected).
The above image shows the page for cubes (pyramids and triangles), but the other primitives offer similar pages.

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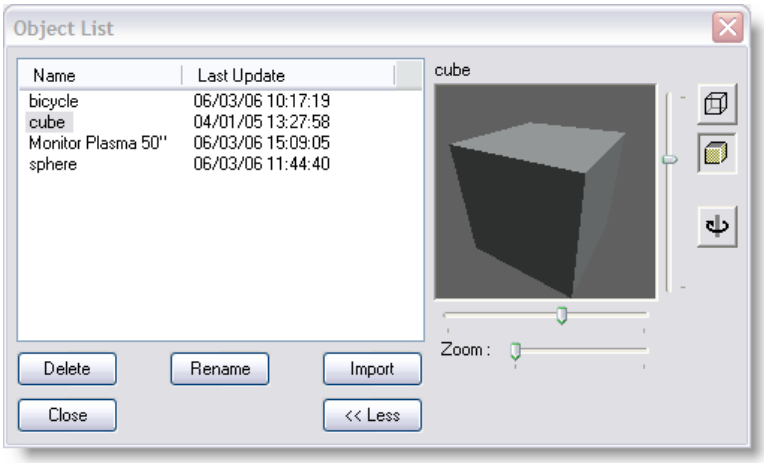
4.8 Object List



This list shows all the objects that are in this library. To open this window you must select the object list menu item. In new library's this list will be empty, the above example is taken from an existing library. As you can see there are two objects used in the library. The name of an object is in the first column and the second column of the list shows you when the object was last saved. At the bottom of the window are five buttons. The functions of these buttons are described below. At the top of the list you see a gray area with the text 'Name' and 'Last Update' in it, this is called the header. In the header you can also see two vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. All objects in this list can be inserted in another object using the insert operation, which is activated by clicking the button.

- The **Delete** button:
  The delete button simply allows you to remove the selected object from the list. You will be asked to confirm this action. Deleting the object from the list will not affect any inserts of this object. You can however no longer insert this object in the library.

- The **Rename** button:
  The rename button allows you the change the name of the selected object. After you have clicked on this button, a box will appear around the selected object. In this box you can type a new name. After you press the enter-key the object will be renamed. If the name you typed already exists in this library you will see an error box and the rename operation is canceled.

- The **Import** button:
  The import button allows you the get objects from model libraries into this library. You will be presented with the standard file open dialog box in the modellib

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directory. You can now select the library from which you want an object. After opening the library you will see a list of all objects in that library. You can now select one or more object(s) from this list and press the OK button. The object(s) you selected will be copied into this library and they will be shown in this list. If one of the objects you selected has a name which is already used in this library the new object will be renamed by adding a '.x' to the name, where the x represents a number starting from 1 and increasing until a name is found that is not used.

- The **Close** button :
  The close button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. This window can be opened again by selecting the 'Object list' menu item in the 'View' menu.

- The **<< Less / More >>** button :
  The Object List has a preview mode, which can be (de)activated by the '<< Less' button and the 'More >>' button. If the preview mode is activated, the preview will be updated about a second after you select an object in the list. You can view the object in the display modes Wireframe ( ) or Solid ( ), adjust the pan and tilt of the object with the vertical and horizontal sliders next to the preview window, and the zoom by the bottom slider. You can also 'inspect' the object by clicking the inspect button ( ). This will make the object spin around the vertical (y-)axis. In this mode, the horizontal slider below the preview window enables you to control the rotation speed.

Note: Objects can be previewed, zoom in-out, and move around.
Preview are 3D so they are generated every time you select an objects.
When working with large objects, it maybe be necessary to turn the preview off {<<LESS]

Once an object is imported in a library, it can be use as many times as needed in the other objects.
If the object is modified in by opening the library in the Modeler, all instances of that object use in the library will be modified.
However, if the object is modified in the library where it was imported from, it will not affect the objects used in currently saved scene.

4.9 Import DXF and others

Often you have to use a drawing made in another program and use

Library | Import | DXF File
This option allows you to import a DXF file. After selecting this option, you will be presented by a DXF options dialog:

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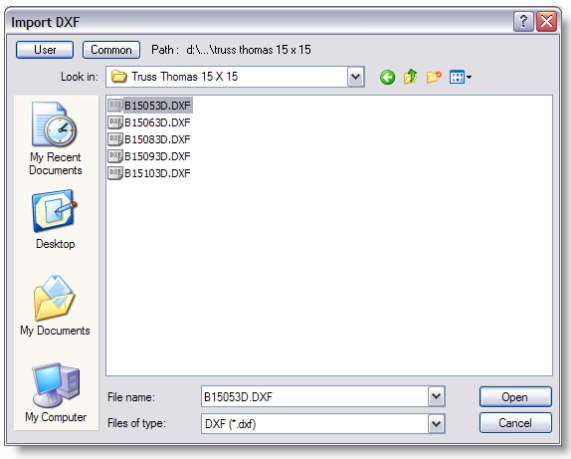
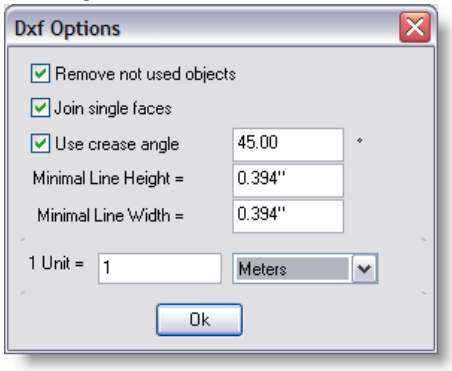
From the Library menu select Import>DXF



Browse and select a DXF file and press Open

Dxf options



First you get a list of options on how to import a DXF file:

- **Remove not used objects**
  Here you can specify if you want to remove any 'not used' objects from the DXF import. By not used objects we mean objects present in the file, which are not used in the actual drawing you are importing.

- **Join single faces**
  Here you can specify if you want to join single faces (triangles etc) of an object into one object. The advantage is that such a joined object is easier and faster to manipulate and work with, the disadvantage is that the object can only be handled as 'one', which means for instance you can only add one material to the object.

- **Crease Angle**
  The crease angle is used to smooth joint between surfaces (default is 45 degree)

Example:

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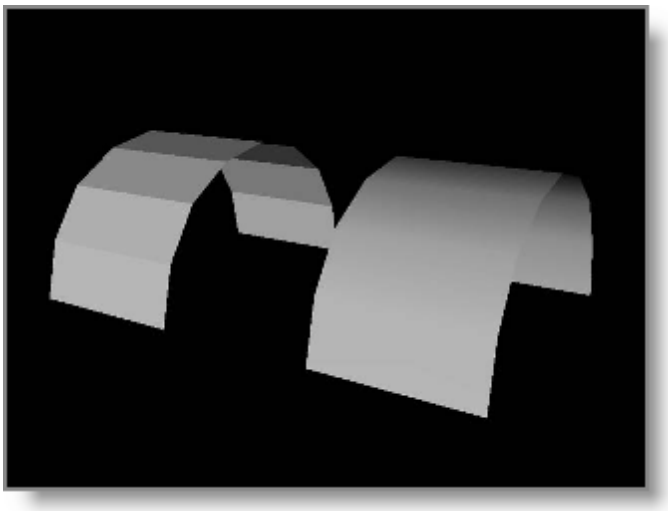
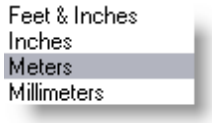


- **Minimal Line Width and Height**.
  any lines imported in MSD Modeller must be converted into a 3D object. Specified the width and height for these line conversion to cubes
  Note: you can import a 2d Drawing of a plan view and then use the line converted to cube and extrude (scale) walls and other surfaces to the desired width and height

- **Unit**



You can specify what 1 unit in the DXF file represents in real world coordinates.
When importing a file, it is important to know the unit used to create that file.
If it is unknown, try using (1 unit = 1 inch) or (1 unit = 1 meter), these are the most common
Then looking at the object size once imported will give you a hint if it is the right unit.
Example if you import an 12 inches object made with (1 unit = 1 inch) and when importing you choose (1 unit = 1 meter) the object will now have 12 meters...!

When all settings are chosen, click on OK
While the file is importing a status window will be shown where the different imported elements count are displayed.
This box will close automatically once the import is finish.

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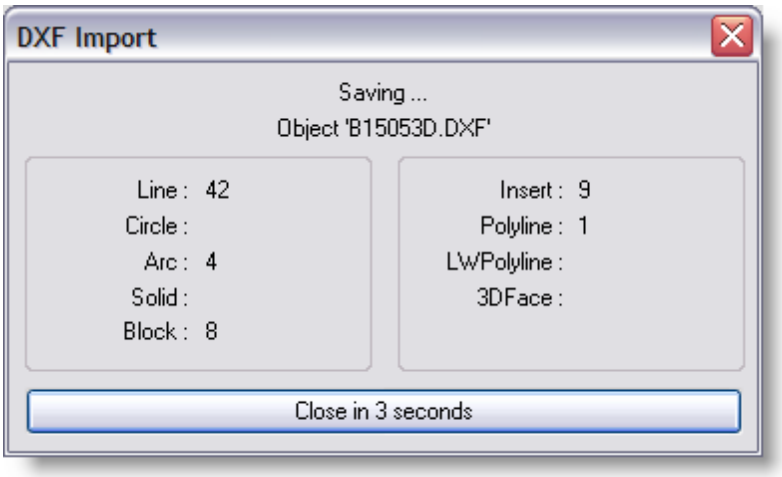

When you import a DXF file, objects defined in the DXF file will be imported as objects in the model library. The total scene in the DXF file will also be imported as an object and will get the name of the DXF file. For example, if you import a DXF file called 'c:\room.dxf' which contains a scene with 3 objects in it (a table and 2 chairs), There will appear 3 objects in the model library called 'room.dxf', 'chair' and 'table', where the object 'room.dxf' will contain the complete scene. If there was also an object 'painting' in the DXF file which was not put in the 'room' scene, it will or will not be in the model library, depending on whether the checkbox 'Remove not used object' was checked or not.
Since the Modeller is a 3D graphics program, it will only import 3D DXF objects, and lines if the 'Convert lines to cylinders' option is turned on.

Tips to import CAD drawing
Many CAD's use block and 2D lines to build objects, this can cause some problems when importing in a 3D modeler.

If the CAD as an option to export/Import to a 3D format such as 3DS, take the whole drawing and export it to that format.
Still in the CAD software, create a new drawing and re-import the exported drawing and this time save it or export it as DXF.

4.10 Material List

A material is a color or texture which you can apply to the surface of any object. There are several different ways you can use and manipulate a texture and it can get very complex. The best way to use a material is to think of it as an example of what you object is going to look like, rather than spending hours perfecting it.

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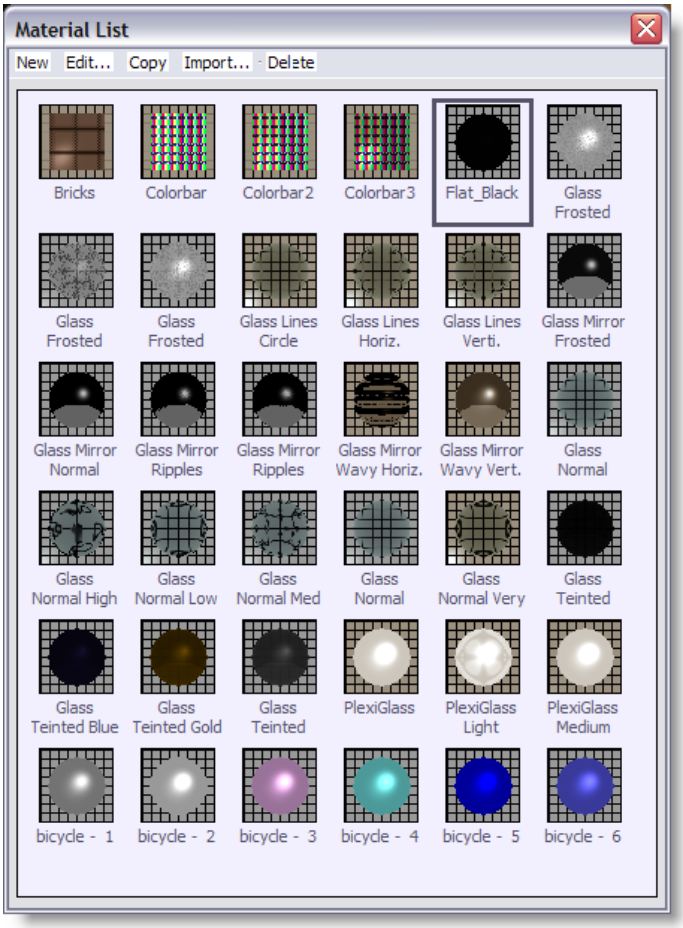
All materials in this list can be assigned to object parts by selecting the Primitive: Parts page in the Primitive properties '.

Creating a simple material
Just like Objects, you need to create a list of materials you are going to use, before you apply them. You will find the Materials list in the same place as the Object list, under the view menu.



To create a new material, click on New and then Simple, this should open a material properties window. You can then apply a series of properties to what ever material you want to create.

Copying a material
You can use the copy function to make a copy of an existing material, this will save you time if you need two materials that are very similar.

Import a material

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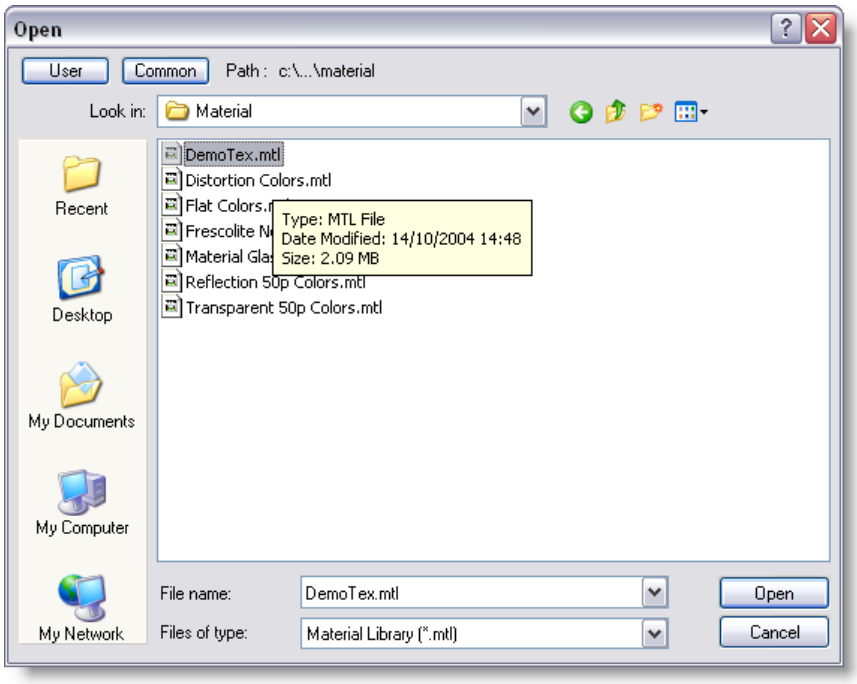

There are a number of pre-made materials for you to choose from, Import allows you to access these.
You can also import materials from other scenes that have been saved on your computer. To do this click on Import and change the file type to scene (.scn), then search your computer for the scene file and open it. It will then give you a list of all the materials that were used in that scene.

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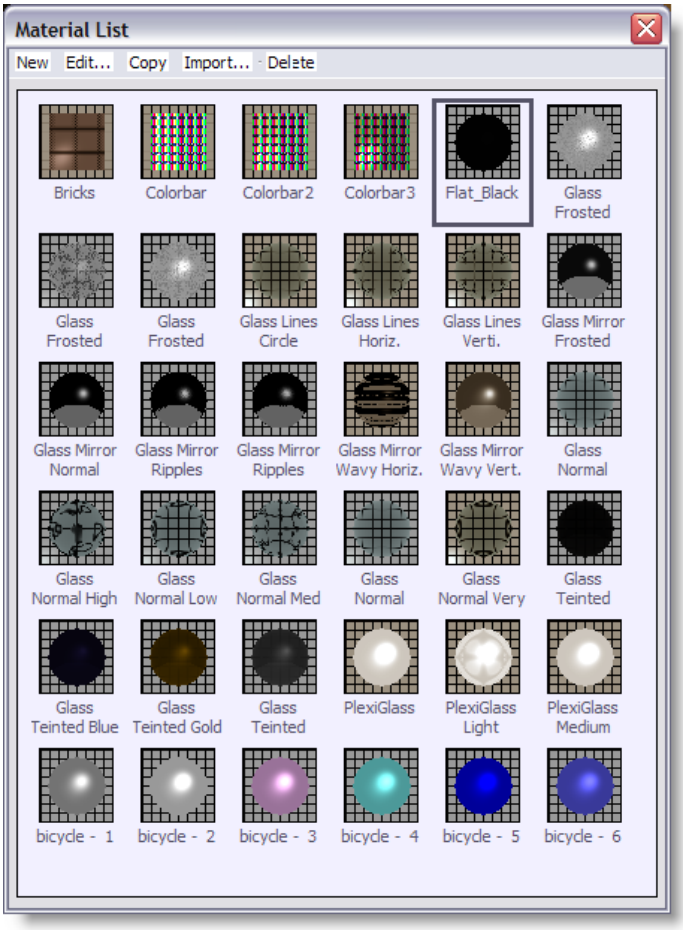

Delete a material
Simply click on the material you wish to delete and click on the delete

Applying your material

- Pick the object you wish to apply your material to.
- Open it's properties window, (Alt +Enter)
- Click on the Materials page.
- Select which part of your object you wish to apply the material to and click on it.
- Click on the material you wish to apply to the part
- Click OK

The Un-link button is so you can separate the material from the part.
The Add button allows you to add more materials to the list from other scenes, much like Import.

Tips: you can create your own Material library
Simple Start a scene in ShowDesigner and create or import all desired textures.
Save the scene.
Then, rename that scene with a MTL extension like "MyTextures.mtl"
When ever you want to import a material,

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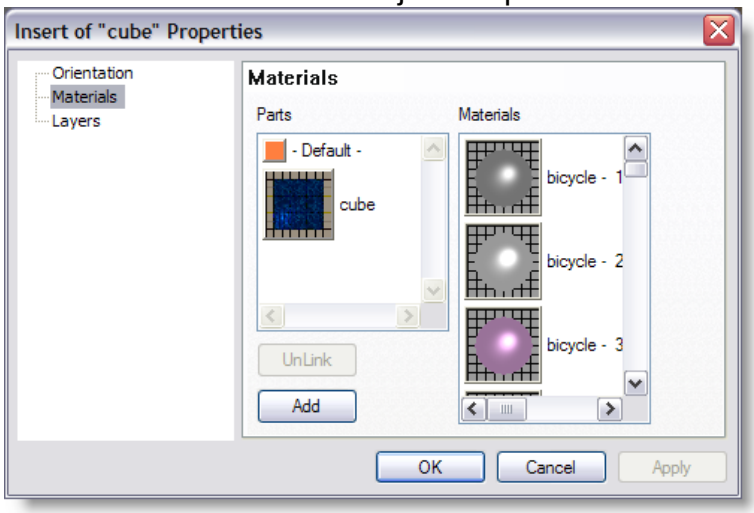
Use the Add button is the Object Properties/Material

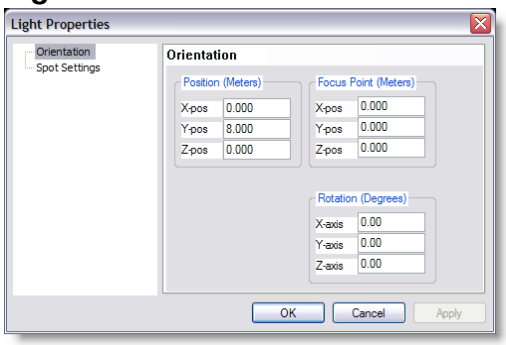


or use the Import button in the Material list.

4.11 Light Source Properties

Orientation page
The 'Orientation' page looks like this

Light-sources orientation



This page looks a lot like the page described in Primitive Properties . The difference is the 'Focus Point' fields instead of the size. The 'Focus Point' fields can be used to focus the spot on a known position.
Settings page
The 'settings' page is the dialog where you set up a light-source. It looks like this

Spot settings

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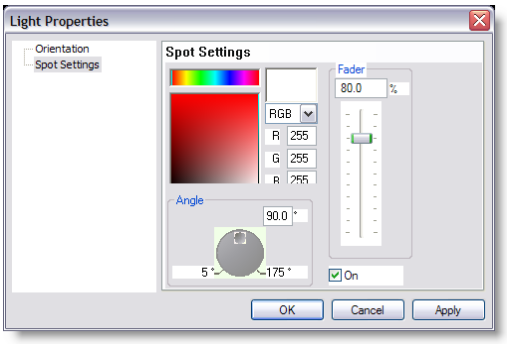

In this page you can change the color of the light-source, change its intensity and change its beam angle. The color of the light-source is changed in the same manner as the 'Color Selection '. The intensity is change with the slider, or by typing in the correct percentage, and the beam angle can be changed by moving the wheel or typing in the correct value.
Below the fader you see an option labeled 'On'. This option is used to turn the light on or off. In the drawing you can recognize light-sources that are on, by a beam. Light-sources that are turned off have no beam.
The settings of the light-sources will be stored with the object. New objects will use the light settings that are in effect at the time you created the object.

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3D Visualizer

Part V

5 3D Visualizer

5.1 Introduction

The MSD 3D Visualizer is a very useful tool for pre-programming of any kind of show, or for creating a presentation of a future show.

In the Visualizer you can create a scene, or load a scene made by the ShowDesigner module and connect the fixtures in the scene to DMX and see how the fixtures react. Through separate available hardware it is possible to connect the Visualizer to any DMX controller. A number of network protocols and software links are also available eliminating the need for extra hardware altogether.

During the pre-programming stage the show is rendered using a near real-time realistic rendering engine, that can uses photometric data of the fixtures to give a realistic view of the show. Parameters like movement (including the head of moving head fixtures), intensity, fixed colors, CMY color mixing, gobos, framing, iris and more are all displayed and taking into account for the rendering. Several different camera positions can be defined and used in a camera animation that will give the presentation a more dynamic look. Video panels can be assigned a movie file, still image or even a live capture (depending on available hardware) to enhance the show presentation.

As a last stage, the incoming DMX can be recorded and combined with the camera animation be used to create a high resolution video of the show. It is then possible to view a pre-programmed show or future show using any standard Windows video viewer.

5.1.1 Layout

Following is an image of the application window of the 3D Visualizer.

- The biggest part of this window is called the 'Scene area'. This area will display the scene that you are working with.
- To the right of this area you find the 'Side Bar'. The Side Bar is where you will find all the properties of the picked objects, fixtures and camera, a list of available objects and fixtures that you can place inside the scene, an overview of all the objects and fixtures already placed in the scene. as well as other useful tools and settings management.
- On top of these two areas you can see the Toolbar, these toolbars have a number of shortcuts to common operations and tasks.
- Above the Toolbar you can see the Menu bar which has items for all available operations and tasks.
- At the bottom of the window is a Status Bar that gives you some feedback when selecting a menu item or while the program is loading or saving the scene.

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In the next sections these areas will be discussed in more detail.

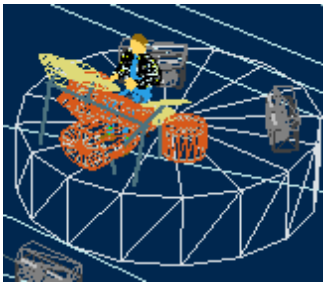
5.1.2 Scene Area

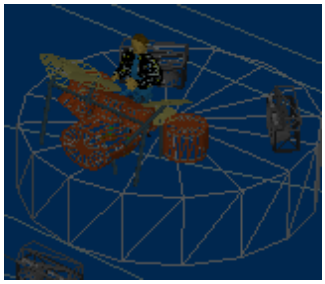
The scene area is the main area of the application. In here you will view your show and interact with the objects and fixtures in it.

What you see is determined by the camera settings. You can place the camera at any point in the world and look in any direction. Where the camera is situated and where it is look at can be changed in various ways. Please have a look at 'Cameras' for more details on how to change the camera settings

The objects and fixtures in the scene are normally displayed as solid objects, but you can switch this to two 'Wireframe' modes. This might show objects that are obscured by others.

Solid


Wireframe


Wireframe (Lit)

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To interact with the scene, you need to pick and/or select objects and fixtures.
A picked object or fixture has a red box around it, Selected objects or fixtures have a green box.
You can pick an objects or fixture by clicking on it with the left mouse button.
You can use the Ctrl key to select multiple objects, when you hold down the control key and pick another object, the previously picked object will become selected or unselected if it already was selected. Another way to select multiple objects and fixtures is to hold the left mouse button down and drag a rectangle on the screen. Objects fully inside this rectangle will be selected, if you hold down the Ctrl key down, the objects will be added to the existing selected objects, otherwise the selection is cleared first. If you hold down the Shift key then all objects that are partially in the rectangle will also be selected. A third method of selecting multiple objects and fixtures is with the left mouse button, in combination with the Alt key. This mode will draw a line on the screen, and any object or fixture that is touched by the line will be selected. Again holding down the Ctrl key will add the objects and fixture to an already existing selecting otherwise the selection will be cleared first.

To clear the pick and selection you can use the ESC key. Pressing the ESC key in the graphics area will clear the pick, holding down the Shift and pressing the ESC key will also clear the selection.

5.1.3 Tool Bars

The 3D Visualizer comes with a number of toolbars that make the most used menu options easier to access.

Each of the toolbar has a group of buttons in it that deal with a specific type of action. Each toolbar can be placed on the top, bottom and sides of the application window or even in a small separate window of its own. When the toolbar is placed along one of the window edges, it is said to be docked. When the toolbar is in its own window it is floating.

Camera Operations Toolbar (docked)

Camera Operations Toolbar (floating)

You can drag a docked toolbar by clocking on the small vertical bar on the left side. While you drag the toolbar you can see an outline of the toolbar, if you drag the toolbar need the edges of the application, it will change from a horizontal to a vertical orientation accordingly.

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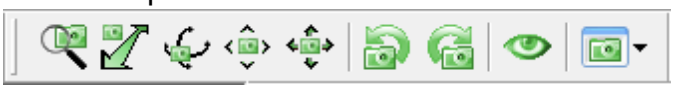
The 3D Visualizer has the following toolbars

- Misc. Toolbar

This toolbar has buttons for loading and Saving files and Undo, Redo

- Camera Operations Toolbar



This toolbar has buttons that deal with the camera settings

- Operations Toolbar

This toolbar has buttons that deal with the objects and fixtures in the scene. If you click on the small black triangles next to some buttons, you will see other variants of the operation. The Move XY operation for instance has and as variants.

- Camera Toolbar

This toolbar has buttons for all the predefined camera settings, and a button to set the camera back into 3D mode.

Besides these toolbar with buttons, there are two other toolbars.

The first is a special one, called the status bar.

The status bar gives some feedback when you walk through the menu items, when you load or save a scene or when you are performing an operation with the mouse. The status bar is special because it can not be dragged.

The other toolbar is called the sidebar, which is described in the next section

5.1.4 Side Bar

The sidebar is a different kind of toolbar. You can dock this toolbar only on the left or right side of the application or have it floating in its own window. When the sidebar is docked, you can change the width of the bar. A floating sidebar can be resized in both directions.

The contents of the sidebar are divided in different sections. Each section represents a category of settings or properties. Each section can be collapsed or expanded by click

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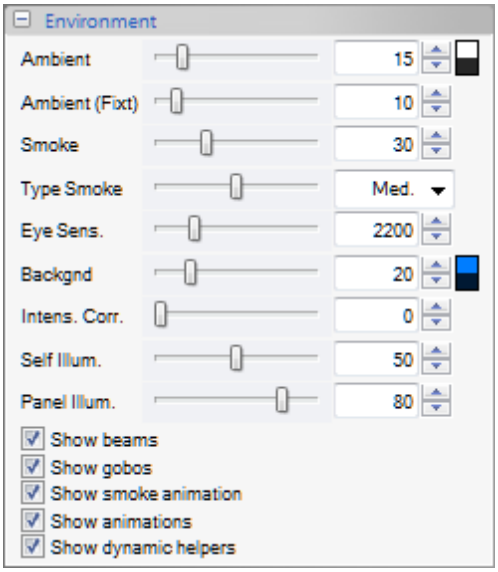
on the small plus or minus symbol on the left of the section name.

Environment section (collapsed)



Environment section (expanded)

Some sections only appear when there is an object and/or fixture picked or selected or when you are working with an operation.

For a detailed description of all the sections and their contents, you should look at the sidebar reference section of this manual

5.2 Getting Started

5.2.1 Loading a Scene

The simplest way to get started with the 3D Visualizer, is to load an existing scene. This scene can be one created with the Showdesigner module or with one of the earlier versions of MSD.

During the load of a scene, the 3D Visualizer will check if all the fixtures in the scene have a valid license. In scenes created with MSD 6, these licenses should be alright if you have kept your subscription up to date. The license for fixtures is something that was introduced in version 5, so when you load a scene from version 4 none of the fixtures have a license.

Any problems with any license will be reported in the Report View, and display just after the scene is loaded.

NOTE: Fixtures without a valid license will not show any light output

There can be 4 kinds of licensing issues :

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- **One or more fixtures do not have a license**.
  This generally occurs when you load a scene created by an earlier version of MSD.
  There are three thing that you can do to solve these issues
  - Reopen the scene with Open & Update. This will replace fixtures in the scene with new versions from the MSD 6 libraries.
  - Give the fixtures in the scene a 'public' license. A public license can be automatically retrieved from the lighthouse web-site.
  - Give the fixtures in the scene a 'private' license. This will make the scene only work for your dongle, but allows you to work with the scene without having to connect to the internet. At a later stage you (or someone else) can always give the fixtures a 'public' license.
- **One or more fixtures have an invalid private license**
  This generally occurs when you load a scene created by someone else.
  There are two thing that can do to solve these issues
  - Reopen the scene with Open & Update. This will replace fixtures in the scene with new versions from the MSD 6 libraries with correct licenses.
  - Give the fixtures in the scene a 'public' license. A public license can be automatically retrieved from the lighthouse web-site.
- **One or more fixtures have an invalid license**
  This occurs when you open a scene that contains fixtures that have a licenses that is newer than the expiration date of your subscription. The only thing you can do to solve this is renew your subscription for MSD 6.
- **One or more fixtures have a private license**
  This means that there are fixtures in the scene that are licensed to your dongle only. Before others can use this scene, these fixtures need to get a public license.

All this can be read in the Report View, including links to give the fixtures public or private licenses.

Besides any issues with licenses, you can also see the Report View if a file needed by the scene could not be found. These could be bitmap files used in textures, movies used in media feeds or custom gobos.

5.2.2 Creating a Scene

If you don't have a scene that you can use, you can also create one in the Visualizer.

After you start up the Visualizer, you will always begin with a empty scene. If you want to follow the steps from this chapter, you should make sure that you have an empty scene. You can do this by starting a new visualizer or by using 'New' from the 'File' menu.

You should now have an empty scene area and if you expand the 'Scene Library Content' section in the sidebar, you will notice that the 'Objects' and 'Fixture' lists are empty as well.

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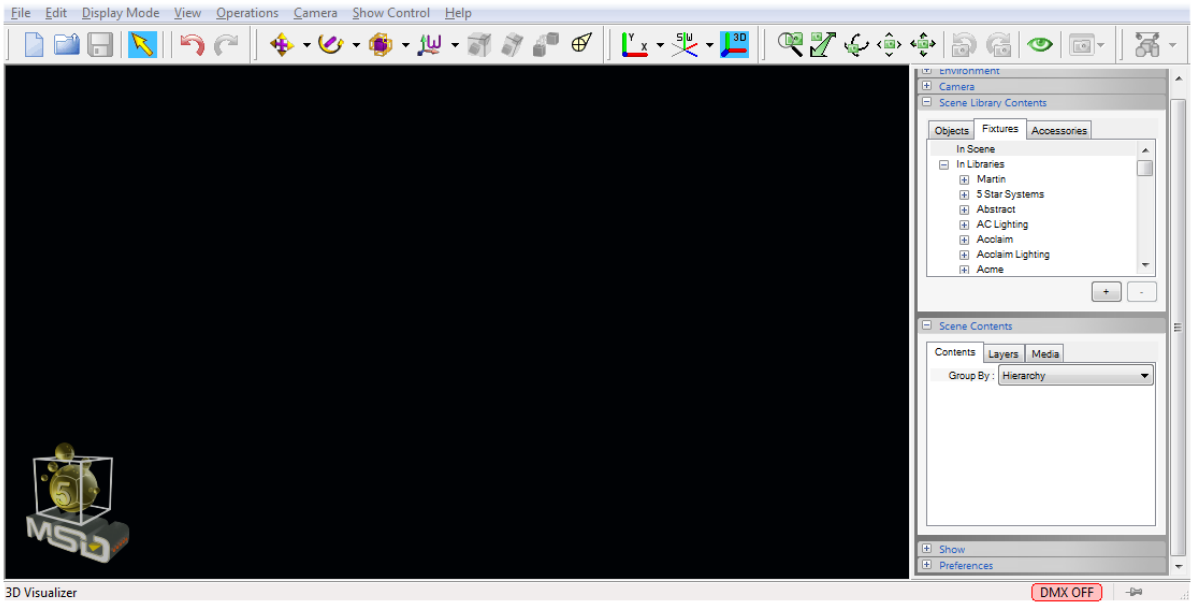
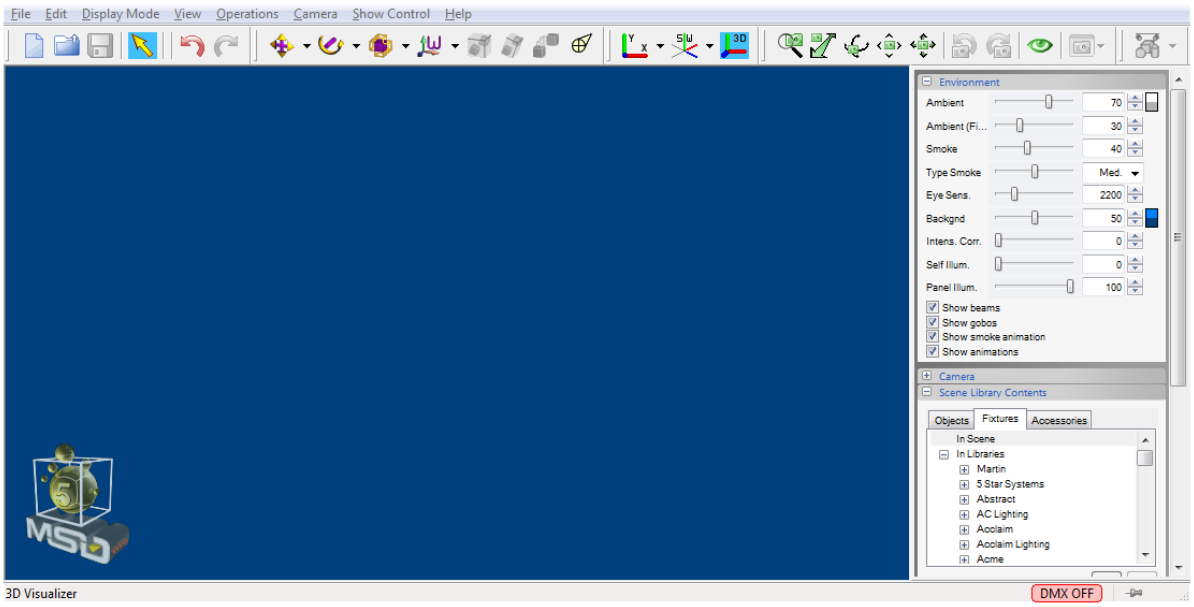
The Visualizer window should now look something like this



Empty scene

Before we start creating the scene, we are going to change the background color from black to a brighter color. The black color is good when you are visualizing a show, but when you editing a scene it is usually better to use a brighter color, so the fixtures and other dark objects are more visible. To change the background color, you should open the 'Environment' section on the sidebar and move the background slider to the center.



Brighter background

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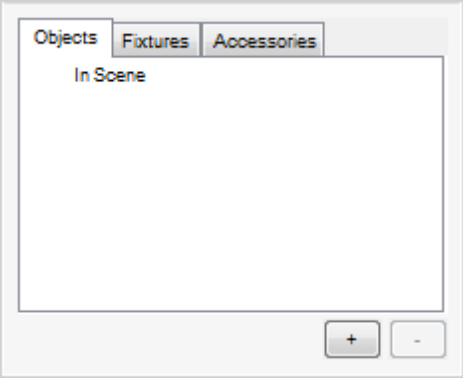
You can also click on the small color box to select a background color.

5.2.2.1 Adding Objects to the scene contents

The first step in creating a scene from scratch, is to get some objects to place into the scene. An object is anything that we put in our scene that is not a fixture.

The 'Scene Library Content' lists all objects and fixtures that we can put into our scene. As this is a new scene, this list is still empty. We are now going to add some objects to the list. Make sure the Objects list is visible in the 'Scene Library Content' section.



Objects List

To add objects to this list you click on the '+' button. This will show a File selection window, where you can select the library from which you want to import objects. The first time the File selection will begin in the folder that holds you personal libraries. As you probably don't have any personal libraries, there will be no files to select. In this scene we are only using objects from common libraries, so you should click on the 'Common' button at the top op the window. This will change the folder to the one holding the common libraries.

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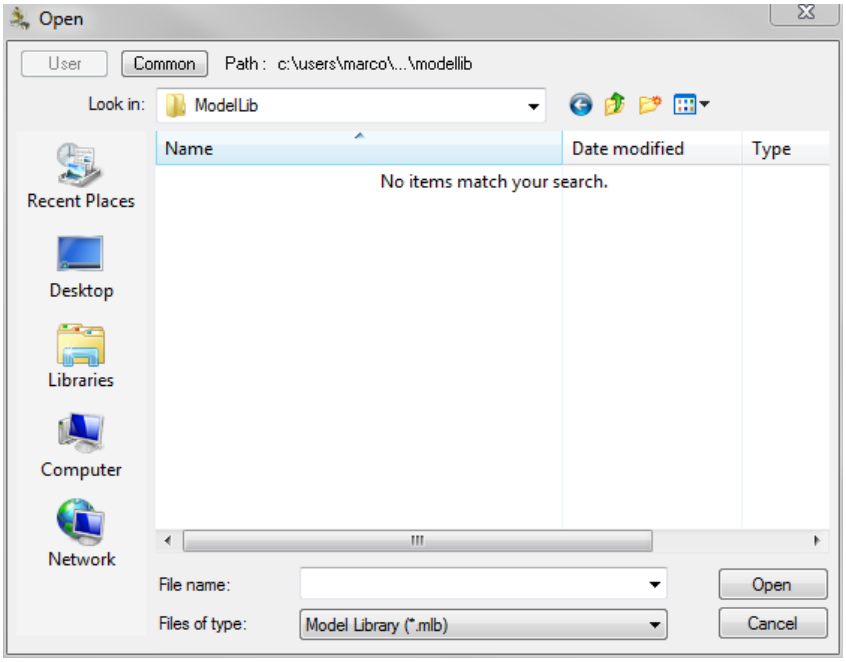
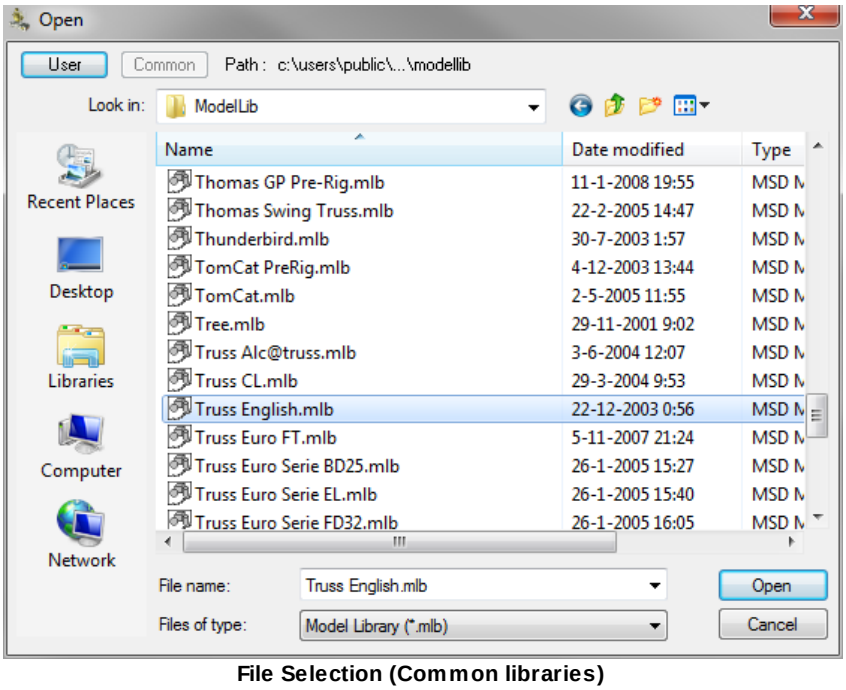
The first object we need is a piece of truss from the 'Truss English' library, so scroll down the list until you see the library and then open it.



File Selction (User libraries)



File Selection (Common libraries)

After you open the library, the 'External Library Contents' window will appear. From this window you can drag objects into the 'Scene Library Content' window. These objects will then be imported into the scene library so you can place them in the scene.
In our scene we are going to use the truss(20.5x20.5x10 feet), so scroll down the list

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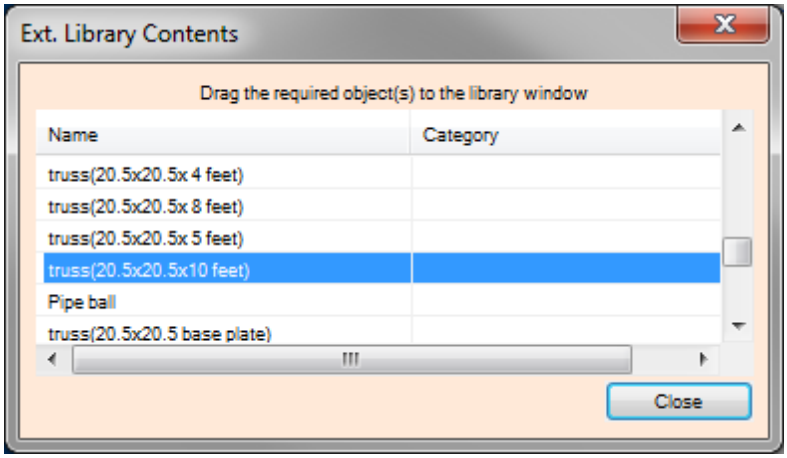
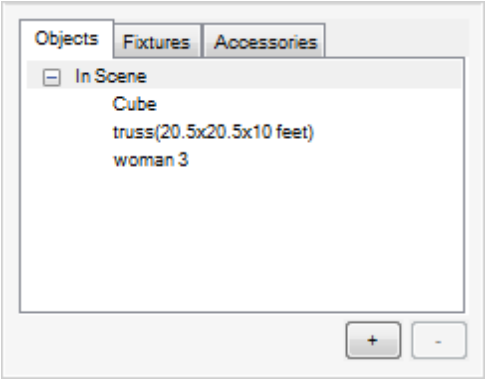
until you see the object, and drag that object into the 'Scene Library Content' window.



External Library Contents

When you are done importing objects from this library, you should click on the 'Close' button.
Besides this piece of truss, we are also going to use a cube and a model of a woman. You can import the cube from the 'Primitives' library and the woman model from the 'Persons_Female' library.

When you are done importing these two objects your 'Scene Library Content' should look something like this



Objects List

5.2.2.2 Adding Fixtures to the scene contents

Besides the objects we will also have some fixtures in the scene.
We are building a very simple scene here, so we only going to need two types of fixtures.
The first type we are going to use is the Martin MAC TW1 fixture.

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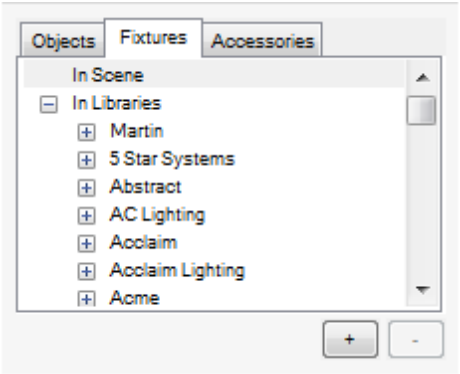
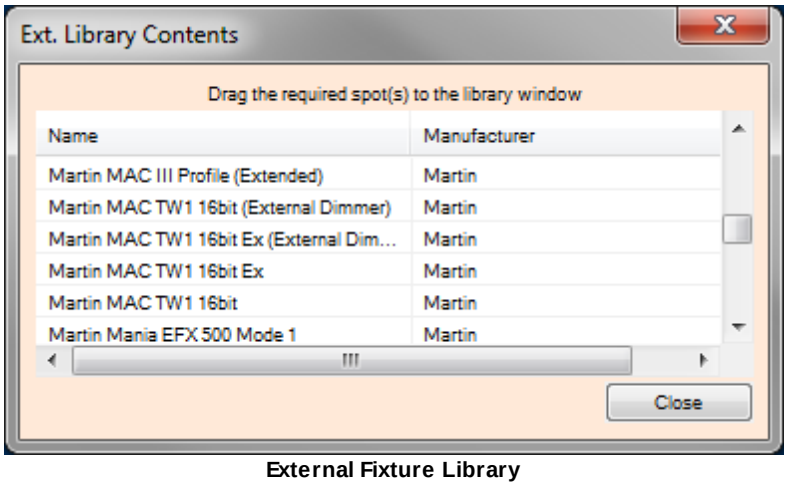
Make sure the Fixtures list is visible in the 'Scene Library Content'.
We can add the fixture directly from the standard libraries you see displayed here, by just unfolding the library of choice and dragging the desired fixture to the scene, but for this demonstration, let's assume the fixture is not in a common library yet.
To add a fixture type to the scene we can import it in much the same way as importing objects.



Fixtures List

To add fixtures to this list you again click on the '+' button just like with the objects. This will show a File selection window, where you can select the library from which you want to import the fixtures. You should change to the 'Common folder' and select the 'Martin' spot library here (Martin.spl).



External Fixture Library

There are various configurations of this fixture in the library, pick the '16bit Ex' version and drag it into the 'Scene Library Content'.
We are also going to use a 3 x 4 meter video panel from the 'Video' spot library so go ahead and import that into the scene now.

When your done, your 'Scene Library Content' should look something like this

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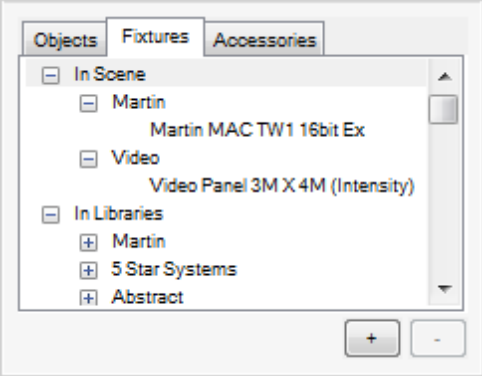

Fixtures list

Now that we have all the objects and fixtures for our simple scene, we can start designing the scene.

5.2.2.3 Placing Objects in the Scene

Objects and fixtures can be placed in the scene by dragging the item from the 'Scene Library Content' window and dropping it in the scene area,

The first step is to select a view. We will start with the floor here, and then we are going to put some objects onto that floor, so a view from above would work best. Selecting 'Camera | 2D | Top' from the menu will make us look from above.

We are going to use the cube object as a floor, so open the 'Objects' list from the 'Scene Library Content' section and drag the cube towards the center of the scene area and let it drop. There should now be cube in your scene. This cube has a size of 1 meter in all dimensions, to use this object as a floor, we need to resize it. You can do this several ways. We are going to use the sidebar properties here. Another way to do the same, would be to use the interactive scale operations.

When you dropped the cube in the scene area, you might have noticed that the sidebar got some extra sections. These new property sections contain properties which are only valid when you have picked or selected an object or fixture. If there is no object or fixture active, these sections will become invisible. These sections start out collapsed, so you need to expand them before you can change the properties. Click on the '+' next to 'Orientation' to open the orientation section. For objects this section can be used to change the position, rotation and size of the object.

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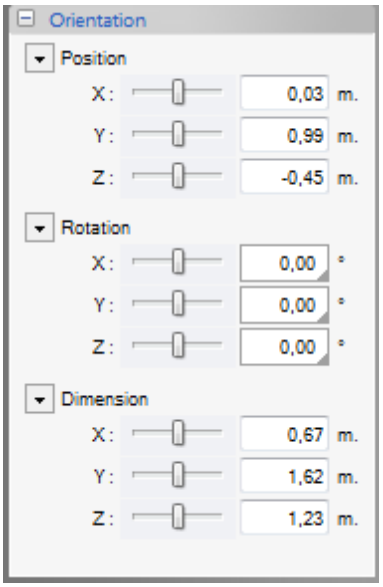

Orientation properties (objects)

We want to make a floor of approximate 10m squared and 1m high. You can use the sliders for the X and Z to change the width and depth of the cube to the desired size. The further to move the slider from the center, the faster the values change, so be careful not drag the slider all the way unless you want to change the value very fast. Another option is to enter the correct values in the edit boxes. If you want to orient objects exactly, then you usually use the edit boxes to enter the exact values.

We want to have to top of the floor on a height (Y) of zero, so after we scaled the floor, we also need to move it. The position you enter here, is the position of the 'insertion point' of the object. For the cube and most other objects in MSD this point is located in the center of the object. This point is also the point on which the object rotates, and when you scaled the object, this point will not change location. In order to get the top of the cube at Y = 0, we need to move the insertion point of the object to half its height below 0, in this case -0.5m. To ease further work on the scene, we will make the X and Z values of the position 0. This will put the floor in the center of our scene.
Because of the scale and move some part of our floor might not be visible in the scene area. To fix this we use the 'Camera | Full View' menu option. This will change the position and angle (scale in 2D) of the camera to make sure the complete scene is visible.

Next we are going to put the woman on the stage. Drag the woman object into the scene area and drop it near the center of the floor. If you drop an object (or fixture) onto another object in the scene it will be placed against the first object located at the point where you dropped the object. So anything that you drop from above onto the floor will just touch the floor.

Next we are going to put up some truss towers. We are going to make two towers with 2 segments each, so we are going to need 4 truss segments.
Drag & drop the truss object onto the floor 4 times, so we have our four segments.

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You may notice that these segments are defined as laying down and we need to have them standing up. We could rotate each of them one by one, in a similar way as changing the size of the floor, or we can do them all together. To rotate them all together, we need to make them all active. We start by making sure no object is selected (green boxed) so we don't accidentally rotate another object in the scene. If there is something selected you can use the 'Edit | Deselect All' menu option to clear the selection. Now pick the first truss, then while holding down the Ctrl key pick the other three trusses one by one. Picking something while holding down the Ctrl key will put the current picked object into the selection, or remove it from the selection if it already is in the selection. If you make a mistake and click on the floor or on the woman, then you should release the Ctrl key before you try to pick one of the truss pieces again, otherwise the floor or woman will also become part of the selection. If the floor or woman does get selected, you can unselect it by picking (red box) it, holding down the Ctrl key and clicking on an empty part of the scene area. That should remove the wrongfully selected object from the selection.

When you have all four truss pieces selected, you can rotate them at the same time by selecting (or entering) a 90 degree rotation around the Z axis.
We are going to build two towers that are located on the left and right side of the floor. Both will be the same distance from the front of the floor. That means that all parts will have the same Z-Position, and because we have them all selected now, we can set that value for all pieces at the same time. Lets make the Z position of all truss pieces 4 m, that will put them 1 meter from the front of the floor.
Now we will put all four pieces of the truss on the correct location. First lets change the camera to an isometric camera so we can better see what we are doing. Select 'Camera | Isometric | Iso SW' which will give us a view from the left front of the stage. We are going to place the truss pieces one by one so make sure that nothing is selected. ('Edit | Deselect All'). Now pick one of the truss pieces and change the Y and X position properties to the following values (X = -4.0; Y = 3.05 / 2 = 1.525) This will move the truss piece to a position 1 m from the right edge of the floor, standing just on the floor. Now move the other pieces to the following locations

X Position	Y Position
-4.0	3.05 / 2 + 3.05 = 4.575
4.0	3.05 / 2 = 1.525
4.0	3.05 / 2 + 3.05 = 4.575

The scene should now look something like this

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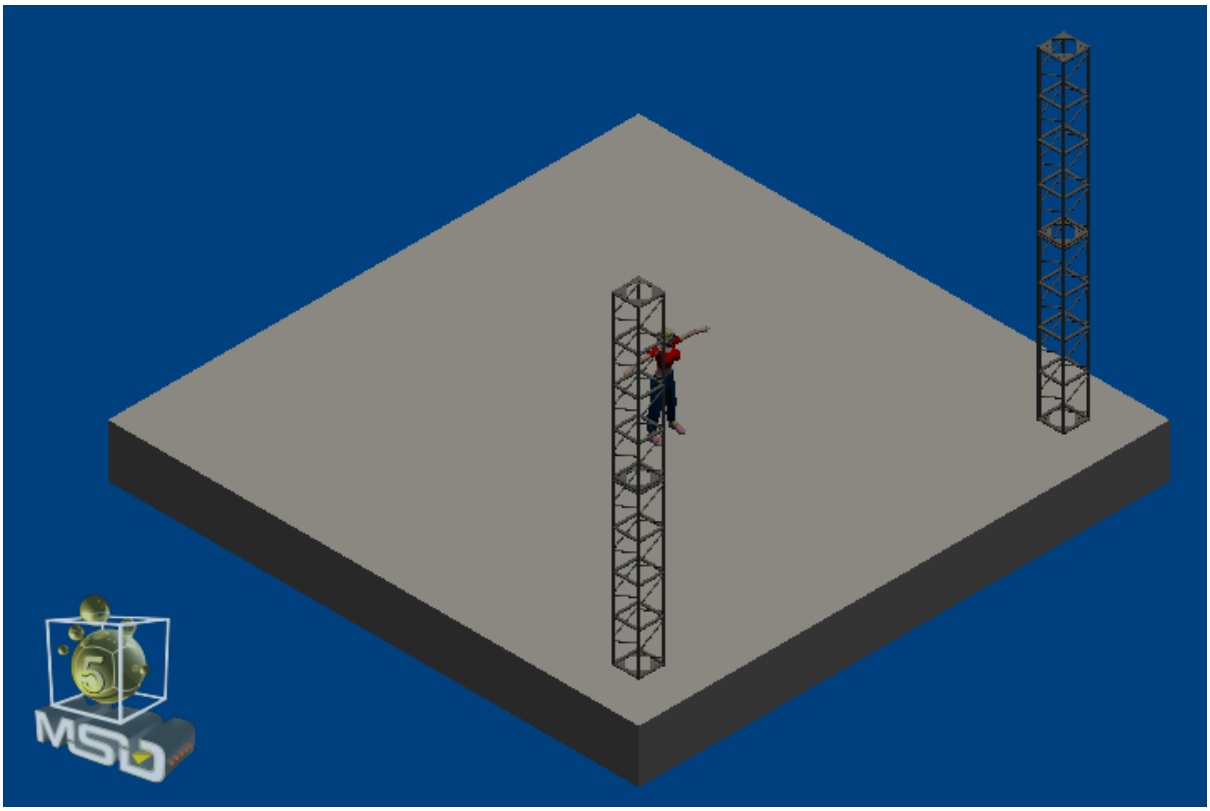

Scene after object insertion

5.2.2.4 Placing Fixtures in the Scene

Now that we have the object in our scene, it is time to add some fixtures. Adding fixtures is basically the same as adding objects. Just drag the fixtures from the 'Scene Library Content' section drop them into the graphics area.

We will start by adding two MAC TW1 fixtures that we are going to place on top of the truss towers. Open the 'Fixtures' list in the 'Scene Library Content' section and drag the TW1 onto the floor. If you are still using the isometric camera settings you may notice that when you drop the fixture, it will be placed on top of the first object as seen from above. The isometric views all work like the top view in that regard.

When you have placed two TW1 fixtures in the scene, we can put them on top of the towers. We are going to do this with the move operations. Switch to a front view ('Camera | 2D | Front') and make sure the complete scene is visible ('Camera | Full View'). As you can see, the fixtures are hanging, so we need to rotate them 180 degrees around the Z axis (or X axis), so they will be standing. Use the Rotation property to rotate the fixtures. When you have rotated the fixtures you can place them on top of the towers.

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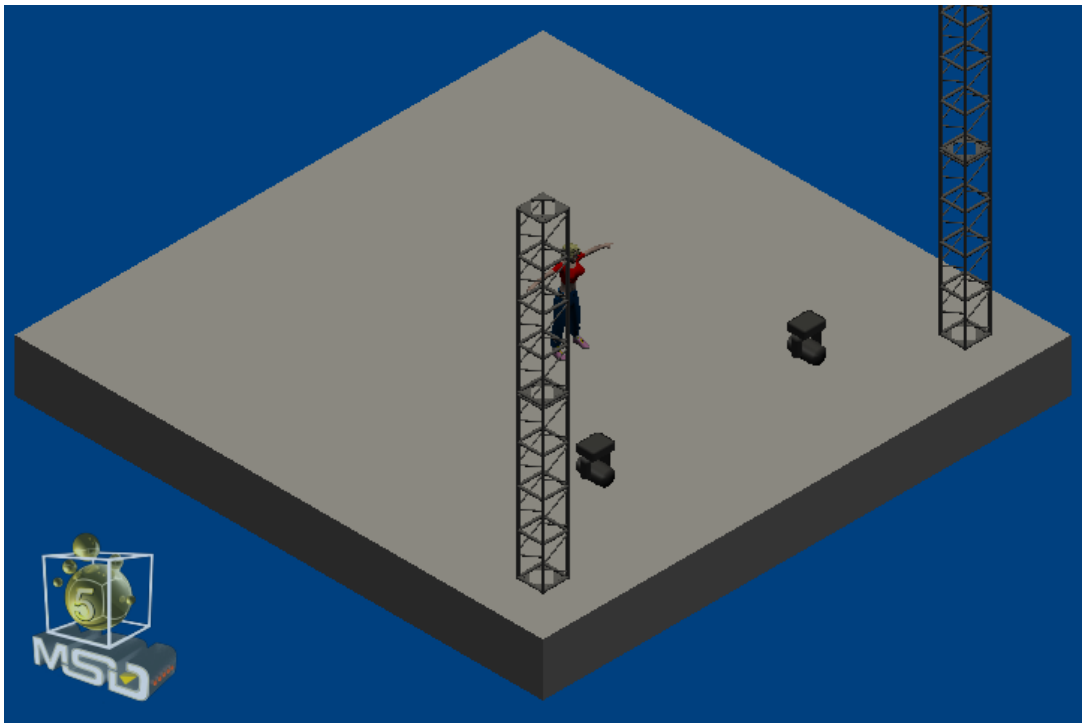

Isometric SW view after fixure insertion

Front view after Fixture insertion

Select the Move XY operation from the menu ('Operations | Move | Move XY'). This allows you to move objects and fixture horizontally and vertically in the scene area. Because we are using the front view, we can use the operation to move the fixtures along the X and Y axes. When the operation is active, you can click on a fixture and, while holding down the left mouse button, drag the fixture to to top of one of the towers.

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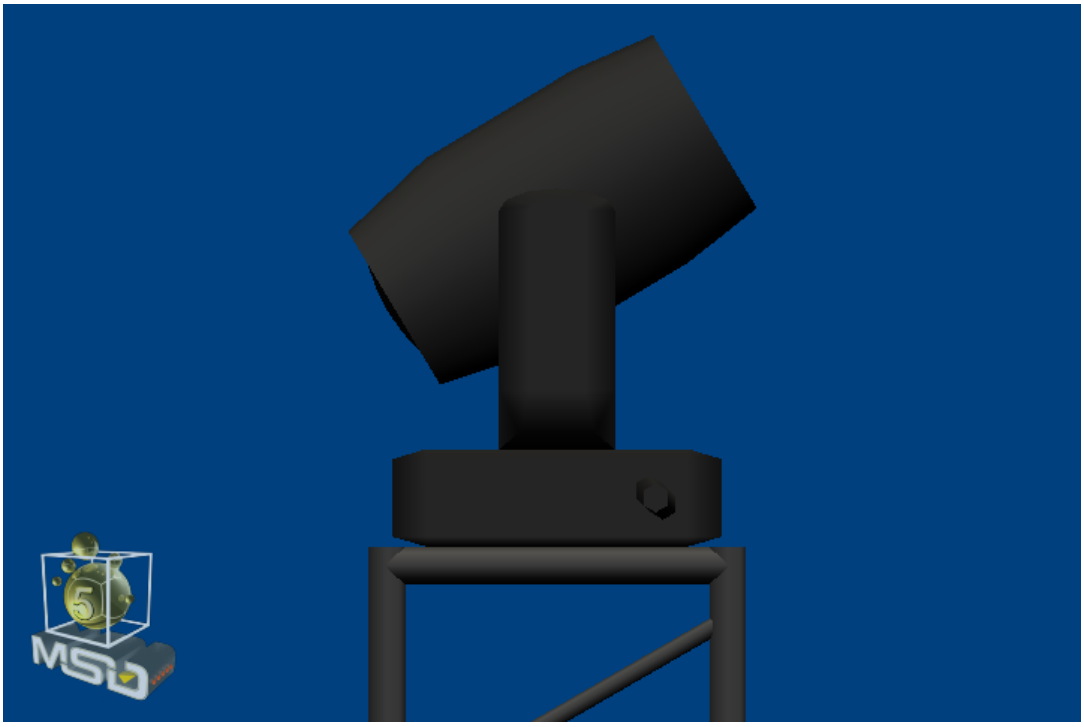
While you have the complete scene in view, you can only place the fixtures approximately on top of the towers. To place the fixtures more accurate we need to zoom in onto the top of the towers. First use the full view camera operation to see the complete scene, this will make the complete fixture visible instead of just the bottom part. Now we are going to zoom in using the rectangle zoom operations.

We are going to drag a rectangle around the area we want to view while holding down the right mouse button. To do this, you just move the mouse to the top left corner of the area you want to view, push the right mouse button down and hold it down, move the mouse to the lower right corner of the area and then release the right mouse button. The following image shows the scene area after the rectangle zoom.



Zoom view of Tower top

You can now continue the move operation to refine the fixture position. When you are finished with this fixture you can refine the other one. When you are done, we have placed both fixtures in the correct X and Y position, but because we are working in a front view, we can not check the Z position. Probably these need to be changed as well, otherwise the fixtures are not on top of the towers. Switch back to the top view and use the camera full view operation to see the complete scene. Now check the vertical position of the fixtures against the two towers. If the fixtures are not located on top of the towers you can now adjust them. You can use the 'Move XY' operation to do this, but you could also use the 'Move Y' operation, so only the Z position of the fixtures are changed. Use the 'Full View' and 'Rectangle Zoom' operations to refine the fixture positions until you are satisfied with their positions.

Finally we are going to place the video panel in the scene. We want to have this video panel at the back of the floor roughly centered from left to right and a couple of meters

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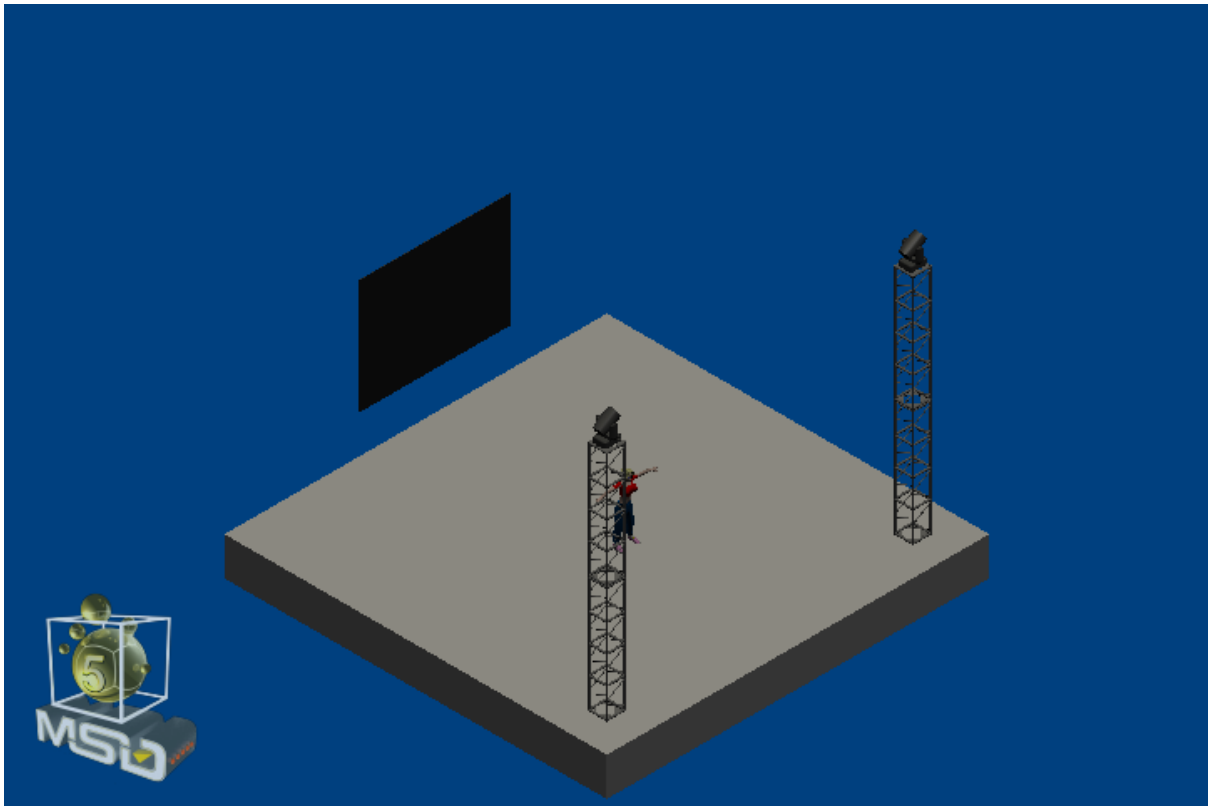
from the floor.
The easiest way to accomplish all this is by using one of the side 2D cameras. So either select the left or right 2D camera. Now drag the video panel to a point a few meters above the back of the stage. You should now have a scene that looks something like this.



Scene after Fixture placement

5.2.2.5 Patching and Controling Fixtures

After inserting and placing the fixtures, we can start patching and controlling them.
When the fixtures are placed in the scene, they automatically receive a unique fixture ID and will be placed on a free spot in the DMX max, so they won't overlap with the channels of other fixtures.
You can view and change this fixture information in the 'Info' section in the side bar, so selecting the video panel will show something like:

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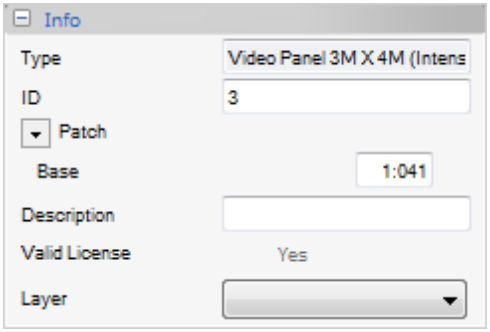
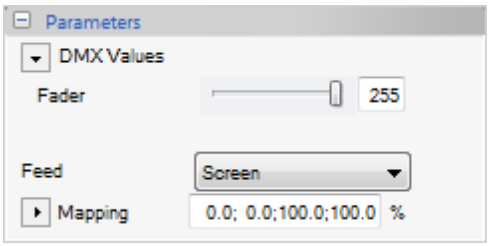


You can change the fixture ID or Patch address, and enter a description for the fixture.

You can now start controlling the fixtures, either by changing dmx channel values by hand in the side bar, or by connecting the 3D Visualizer to a controller, and following the DMX stream.

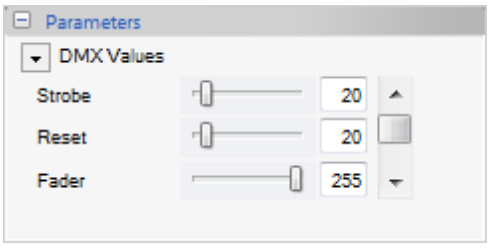
5.2.2.5.1 Manually

To manually control the fixtures, first select the video panel, and go to the 'Parameters' section in the side bar. Here you can control the DMX channels of the fixture.



So for the video panel, we set the fader to 100%, so it is on, and apply a video to it, as is explained in the Media Feeds section.

Then select both of the Mac TW1 fixtures, so you can set then parameters of both of them at the same time, and set the shutter channel to 20, to open the shutter, an the fader to 255 (100%).



Your scene should now look something like this:

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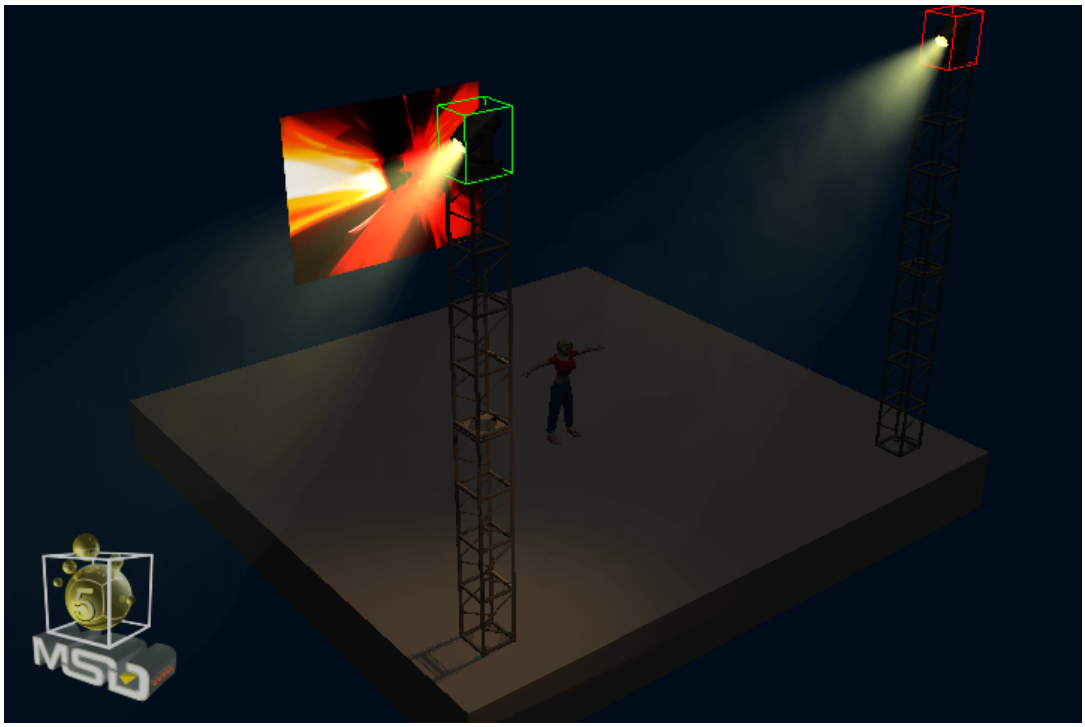
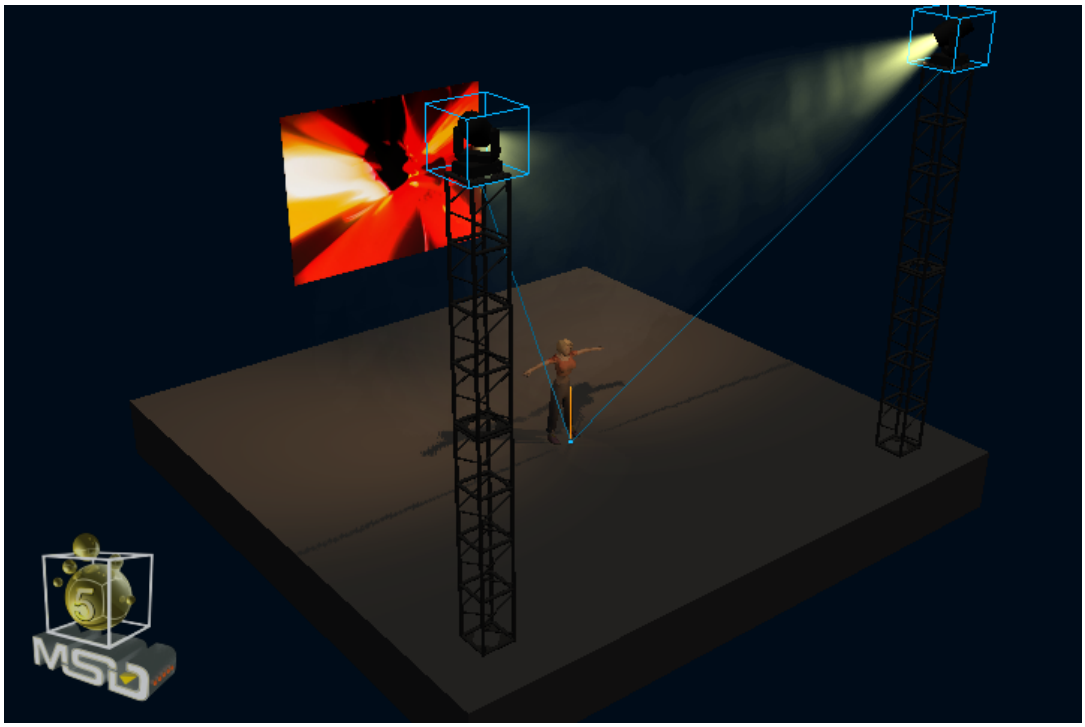


We can now try to focus the 2 fixtures at the feet of the girl, by using the 'Focus' operation , by clicking and dragging the mouse in the scene. (As you can see, in this case the fixtures can not fully reach the desired focus location due to the fact that they reached the limit of the tilt movement of the fixture.)



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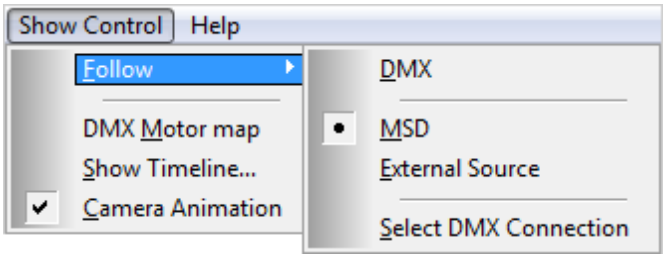
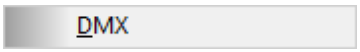
5.2.2.5.2 DMX

To use the 3D Visualizer to follow a DMX stream from a controller, you have to setup the DMX. You can do this in the 'Show Control' menu, which looks something like this (depending on which version of MSD you have.

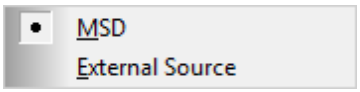


DMX mode



With this entry you can switch the follow mode on and off, which you can also do by clicking on the DXM status area in the status bar, which shows the current status of the follow mode with either DMX OFF or DMX ON.

Source selection



Here you can select which source you want to follow.

Select DMX Connection

This entry allows you to setup the External source. Selecting this option will open a dialog where you can select one of the installed external drivers, and to configure it using the 'Setup' button, if available.

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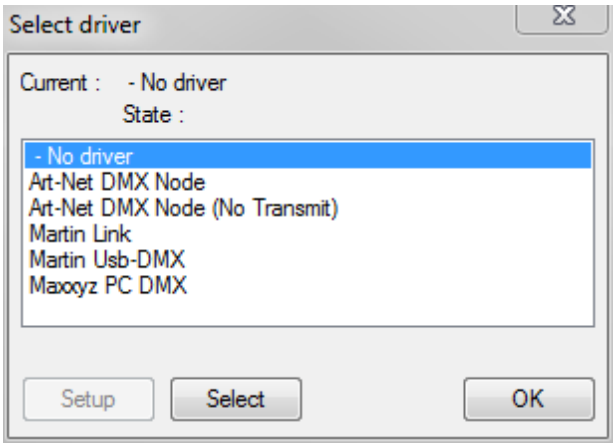

5.3 Cameras

What you see in the scene area is determined by the camera settings.
It is possible to place the camera at any point in the world and look in any direction at the scene.

There are a couple of ways to change these camera settings :

- You can use the camera operation from the menu or tool bar and interactively change the camera settings using the left mouse button. See 'Camera Operations' for more details.
- The same operations are also mapped to the middle and right mouse buttons according to the following list :

  Middle Mouse Button : Inspect operation (Around currently picked object)
  Middle Mouse Button + Shift : Full View
  Middle Mouse Button + Ctrl : Inspect operation (Picks a new object)
  Middle Mouse Button + Alt : Zoom operation
  Wheel : Zoom operation
  Right Mouse Button : Rectangle Zoom operation
  Right Mouse Button + Shift : Move Horizontal/Vertical operation
  Right Mouse Button + Ctrl : Swivel operation
  Right Mouse Button + Alt : Move Forward/Backward
- You can use the properties in the sidebar to change the settings. For more details on this have a look at the 'Camera' section of the sidebar reference.

Besides the position and direction of the camera, there is also a 'operation mode' of the camera. The camera in MSD 6 Visualizer can work in three different modes. The most used mode is '3D' mode. In '3D' mode the camera will show the scene just a real world camera would.
The second mode is the '2D' mode. In '2D' mode the camera will always look along one of the world axes. This mode is a so called orthographic mode in which there is no perspective, it doesn't matter how far objects are from the camera they will always have the same size. The third mode is an isometric mode. An isometric looks more '3D' but

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also doesn't have any perspective. An isometric camera can be used to measure objects along the three world axes.

Both the '2D' and 'isometric' cameras can be used to place objects and fixtures in the scene, something that can not be done in a '3D' camera.

5.3.1 Predefined Cameras

There are a number of predefined '2D' and 'isometric' cameras in the Visualizer.

2D predefined cameras

Camera | 2D | Front

Shortcut : **Ctrl+1**
The front camera shows the scene through a camera looking along the Z-Axis towards the negative side. Operations in this window act on the X (horizontal) and Y (vertical) coordinates.

Camera | 2D | Back

Shortcut : **Ctrl+2**
The back camera shows the scene through a camera looking along the Z-Axis towards the positive side. Operations in this window act on the X (horizontal) and Y (vertical) coordinates.

Camera | 2D | Top

Shortcut : **Ctrl+5**
The top camera shows the scene through a camera looking along the Y-Axis towards the negative side. Operations in this window act on the X (horizontal) and Z (vertical) coordinates.

Camera | 2D | Bottom

Shortcut : **Ctrl+6**
The bottom camera shows the scene through a camera looking along the Y-Axis towards the positive side. Operations in this window act on the X (horizontal) and Z (vertical) coordinates.

Camera | 2D | Left

Shortcut : **Ctrl+3**
The left camera shows the scene through a camera looking along the X-Axis towards the positive side. Operations in this window act on the Z (horizontal) and Y (vertical) coordinates.

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Camera | 2D | Right

Shortcut : **Ctrl+4**
The right camera shows the scene through a camera looking along the X-Axis towards the negative side. Operations in this window act on the Z (horizontal) and Y (vertical) coordinates.

Isometric predefined cameras

Camera | Isometric | Iso SW

The south west isometric camera shows the scene through a camera looking towards the right and back side of the scene. Operations in this window act on the X (horizontal) and Z (vertical) coordinates.

Camera | Isometric | Iso SE

The south east isometric camera shows the scene through a camera looking towards the left and back side of the scene. Operations in this window act on the X (horizontal) and Z (vertical) coordinates.

Camera | Isometric | Iso NE

The north east isometric camera shows the scene through a camera looking towards the left and front side of the scene. Operations in this window act on the X (horizontal) and Z (vertical) coordinates.

Camera | Isometric | Iso NW

The north west isometric camera shows the scene through a camera looking towards the right and front side of the scene. Operations in this window act on the X (horizontal) and Z (vertical) coordinates.

5.3.2 Camera Operations

The following operations allow you to change the camera settings interactively with the mouse.

Camera | Zoom

Shortcut : **Z**
This option allows you to zoom in/out. In '3D' this will work the same as with a regular camera. In a '2D' or isometric camera this will change the scale of the objects.

Camera | Move To/From

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Shortcut : **X**

This option allows you to move the forward and backwards along the view direction. When used with a '2D' or isometric camera, this doesn't do much visually, unless you move the camera far enough so some (parts) of the objects are behind the camera, in which case they disappear.

Camera | Inspect

Shortcut : **C**

This option is only available for 3D cameras and allows you to inspect a scene by moving the camera around the focus point of the camera. If you click on an object when you start this operation, that object will get picked and the focal point of the camera will be set on that object. This allows you to quickly inspect an object from all sides.

Camera | Move

Shortcut : **V**

With this operation you can change the position of the camera. You can move the camera left, right, up and down. The view direction of the camera will not be changed by this operation

Camera | Swivel

Shortcut : **Alt+V**

This option is only available for 3D cameras and allows you to change the view direction of the camera. You can pan and tilt the camera in 4 directions

When something unexpected happens you can use the Camera Undo to undo the changes you made to the camera settings.

Camera | Undo

Shortcut : **Ctrl+8**

This option undoes the last change made to the camera settings.

Camera | Redo

Shortcut : **Ctrl+9**

This option redoes the last camera undo.

5.3.3 Saving and Loading cameras

3D Perspective camera settings can be stored with the scene so you can later recall them and use them as key positions in a camera animation sequence.

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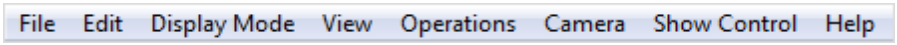
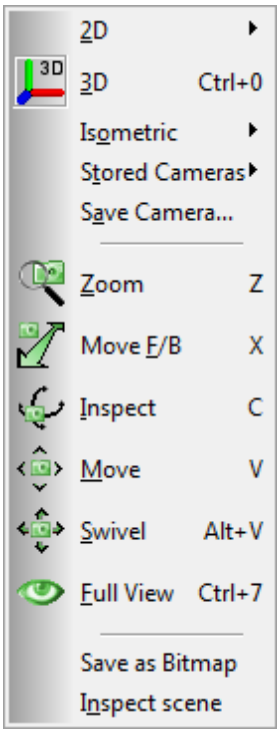
Saving Cameras

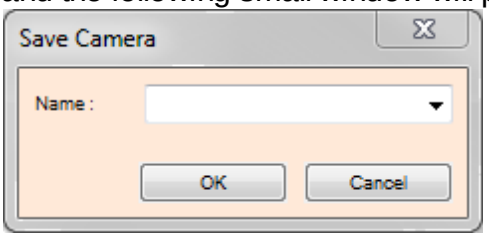
Once you have a camera position that you want to store you click on the 'Camera' menu item in the menubar



Then select 'Save Camera...' from the camera menu



and the following small window will popup



You can enter a name if the edit box and click on 'OK' to save the current camera setting with that name, or you can use the drop-down box to select the name of an earlier saved camera that should be replaced with the current settings.

You can save as many different settings as you like.

If, while setting up your camera views, you make a mistake, there are a few buttons that can help.

Camera Undo, Camera Redo

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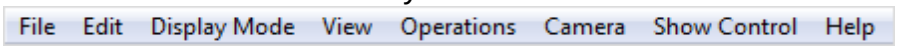
These two buttons can be used to undo or redo changes made to the camera settings.

If everything goes completely wrong and you want to start again, you can click on the full view button. This will move the camera back and open up the camera angle, so the complete scene is visible in the scene area.

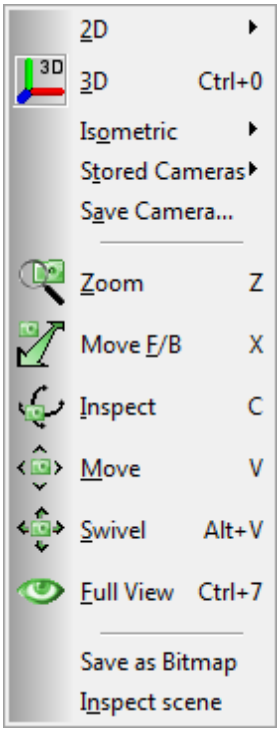
Loading Cameras

Loading a previously saved camera can be done in two ways.
The first method uses the Menu Bar, the second the Tool Bar.

To use the menu bar method you should click on the 'Camera' menu item



Then select the 'Stored Cameras' from the camera menu



You will now see another menu with all your saved camera settings. Just selecting the one you want will load the correct camera settings and apply them to the scene area.

To use Tool Bar method you click on the select camera button and a popup menu with all your stored camera settings is displayed. Just select the correct camera settings in this menu and they will be applied to the scene area.

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5.4 Media Feeds

Media feeds allows you to display multiple video sources onto a scene in 3D Visualizer.

Different types of media can be displayed on panels (screen) or as projection (video projectors).
The media can consist of still images, video files or live video input.

The flow paths is as follows:

You can create Media feeds, with descriptive names, and assign (parts of) them to 1 or more panels and.or projectors. This allows you to do a functional mapping of the media feed, and later decide what content you want to show for each feed.

In the next sections Creating Media Feeds and Using Media Feeds this proces will be explained in more detail.

5.4.1 Creating Media Feeds

As example, lets take a scene which has 4 panels hanging in the background (2 x 2).
We want to display a video file on the 4 panels as if it is 1 big screen.

The first step is to define a media feed to use for these panels.
In the Side Bar go to the Scene Contents, and activate the New Link tab.
This area shows the available Feeds, which Source they are attached to, and how the feed is subdivided (H and V).

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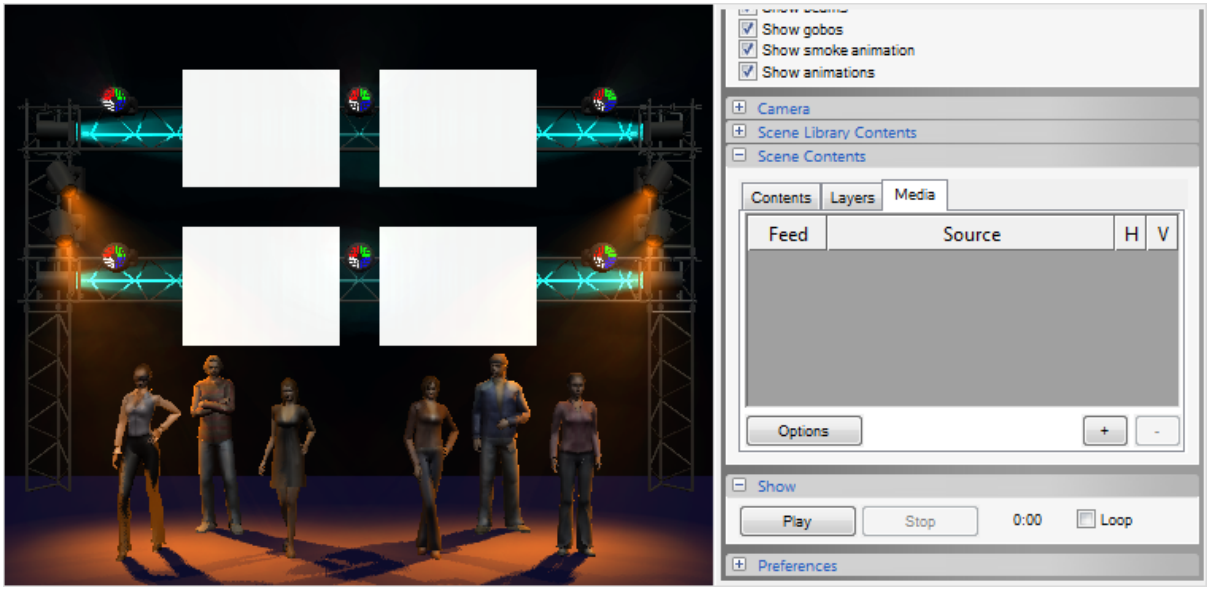
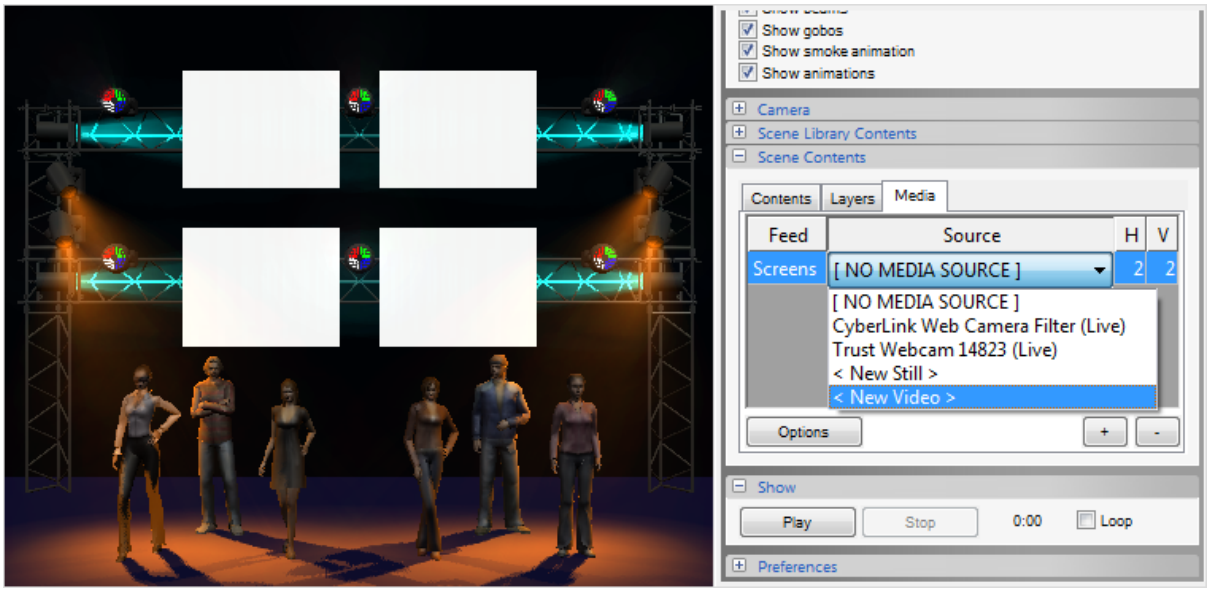


As you see, there are no feed available, so click on the + button to create a new feed, enter a name that describes the feed, 'Screens' for example, and click OK.

You will now have a new feed named 'Screens' (in the Feed column), which is not connected to any media yet (in the Source column), and is not subdivided (1 in the H and V columns).

As we are going to use it for a 2 x 2 screens setup, we enter 2 in the H column (for 2 screens Horizontally), and 2 in the V column (for 2 screens Vertically). These values are not essential, but are handy when you start mapping the feed to the fixtures, as is shown later in the Using Media Feeds section.



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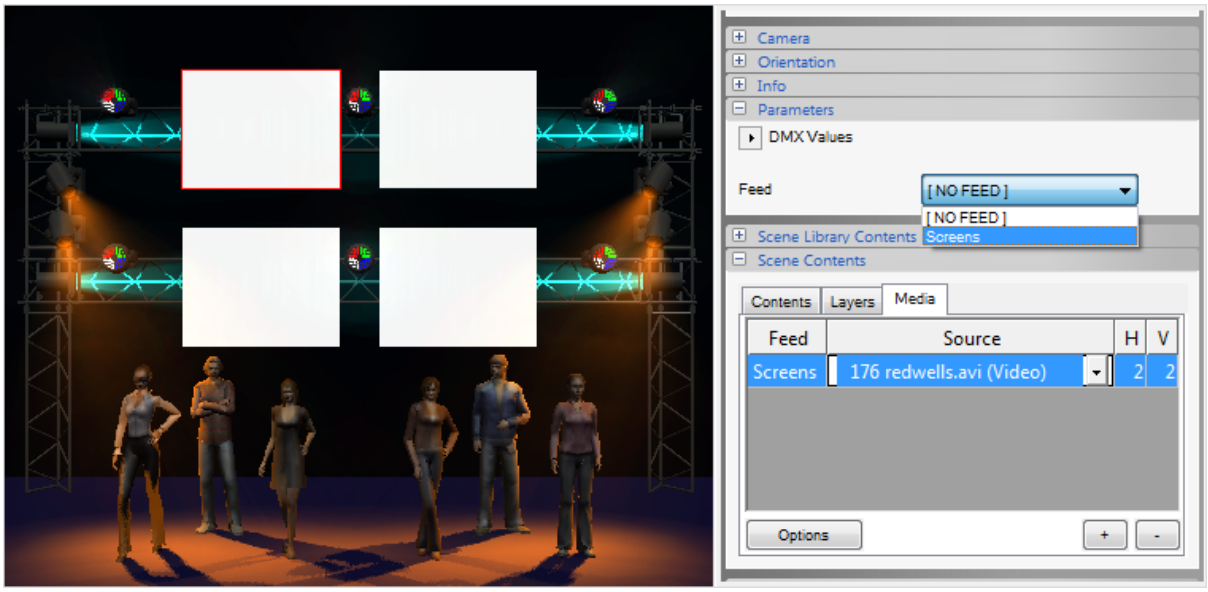
Now click on the 'Source' drop-down button to show the list of available media sources. If you have any live input devices, like webcams, video input hardware etc, make sure that they are on, connected to the PC, and that the drivers for these devices have been installed before you start the MSD 6 3D Visualizer.
To select a new still image or video file as input, click on the '<New Still >' entry or the '<New Video >'entry, and select a file in the 'File Open' dialog that appears.

You now have a media feed, which you can use to map to fixtures, as is show in the next section: Using Media Feeds

5.4.2 Using Media Feeds

After having created a media feed, we now want to map the media feed onto the panels, so select one of the panels, and go to the Parameters section in the Side Bar.



Click on the feed drop-down button to show a list of available feeds, and select the one you want. Do so for the other three panels as well, and you will see the video playing on all 4 screens.

To get the 4 screens working as 1 screen however, we have to set the mapping for each panel, so select one of the panels, go to the Parameters section, and unfold the 'Mapping' area (by clicking on the small button in front).
There you see the media area, subdivided in H x V sectors (as earlier defined for the feed). This will allow for easy selection of which sector of the media you want on the selected panel. You can just click on one of the sectors (or click and drag to select multiple sectors). (You can always set the area with the 'Left', 'Top', Right' and 'Bottom' entries as well.)

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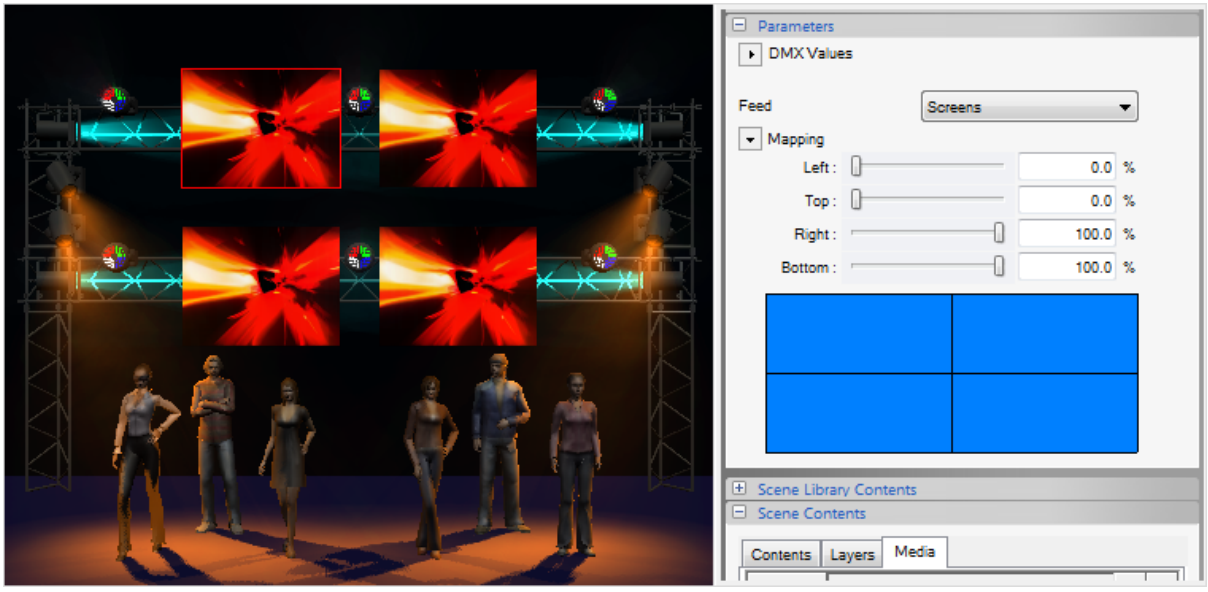
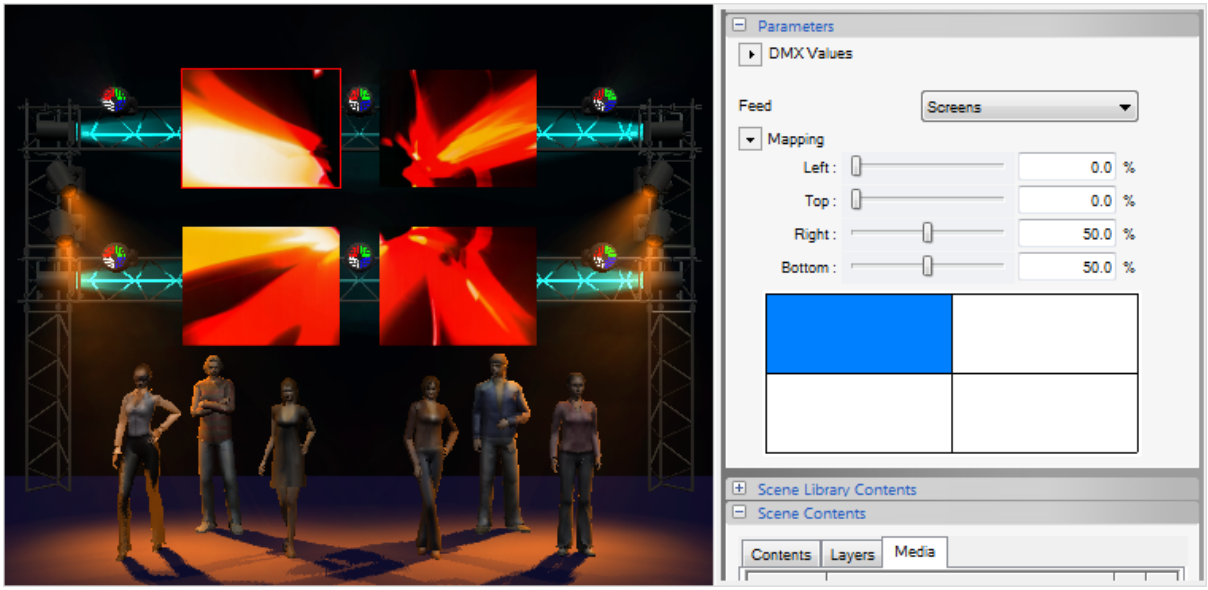


Do so for all 4 of the panels, and you will get the panels to work as one large screen:



You can mix and use multiple media feeds and sources, for example using another feed called 'Camera', which is attached to a live camera, to show on one of the panels:

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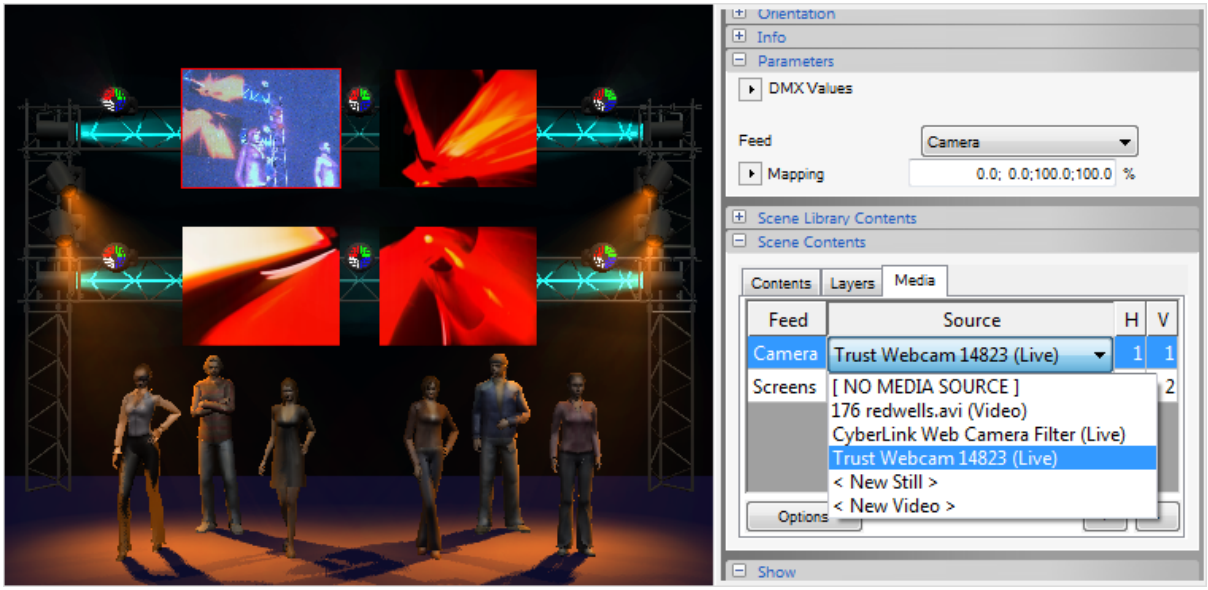

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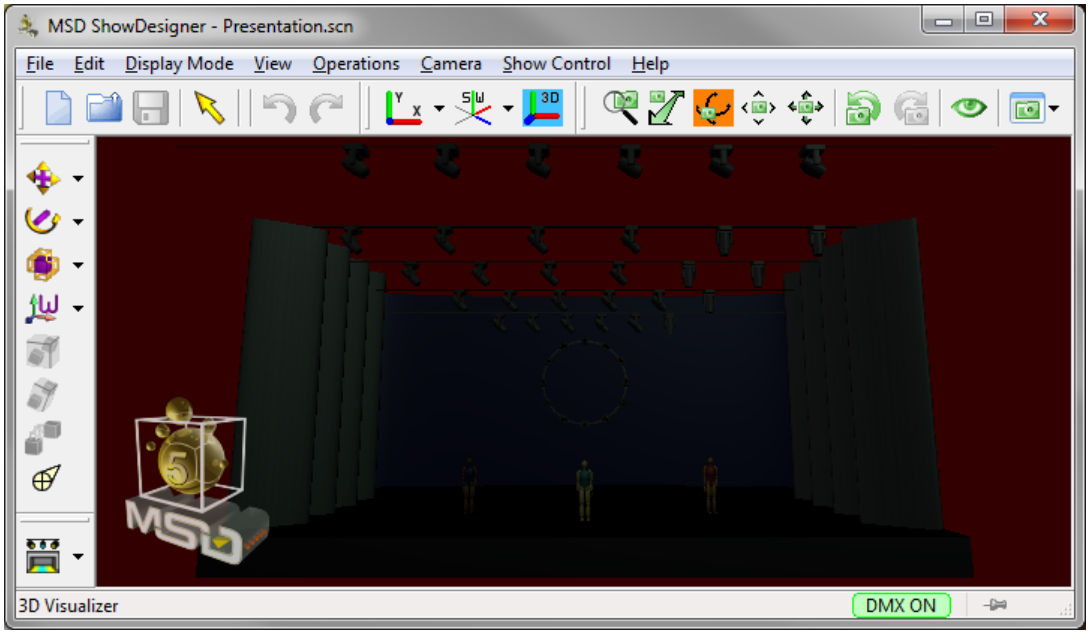
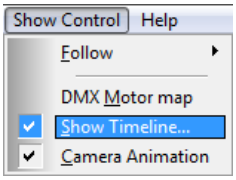
5.5 Creating a Presentation

Using a show file as base, the MSD 6 can also be used to create a presentation by adding a DMX stream and/or camera animation, and then recording the whole as a video file. This is done using a timeline, where we can put the parts of the presentation together.


MSD ShowDesigner - Presentation.scn
File Edit Display Mode View Operations Camera Show Control Help
3D Visualizer
DMX ON

So we start with a show file we have, and open the timeline dialog using the 'Show Control' menu, and selecting 'Show Timeline...' :



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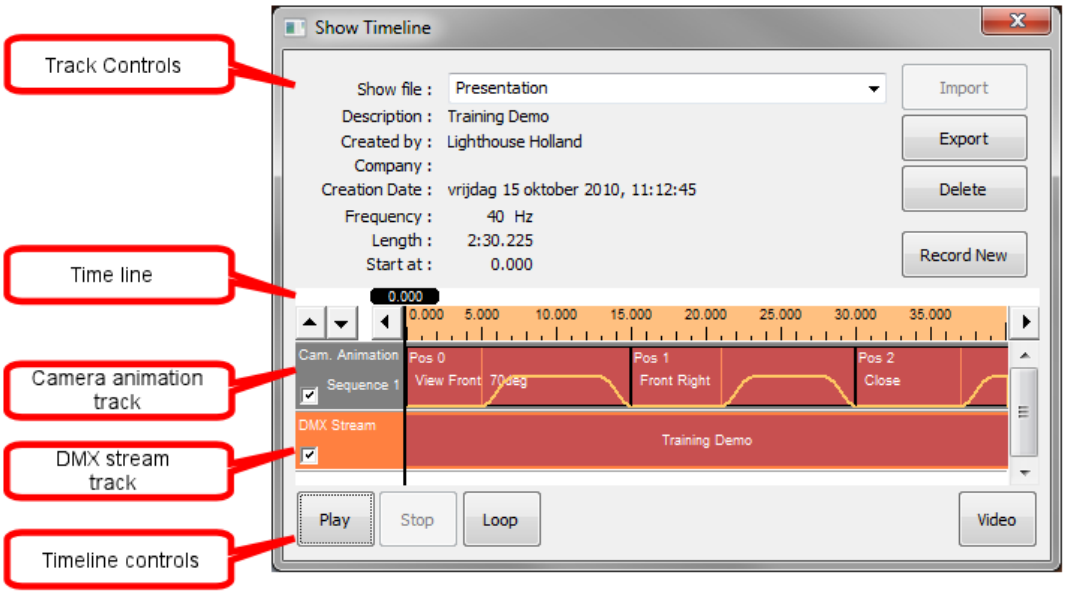
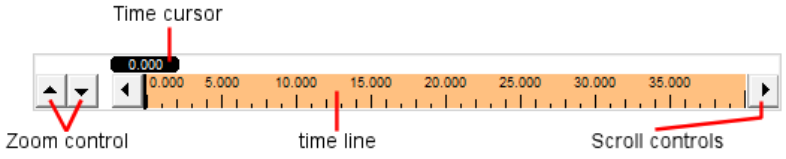
5.5.1 Show Timeline

The Timeline dialog looks something like this:



It consists of a 2 tracks (1 for the Camera animation and 1 for the DMX show), some controls for the active (orange) track, and the Timeline controls.

Time line



The time line is is displayed as a kind of ruler with the duration of the presentation displayed on it, with a 'Time cursor' to show exactly where in the presentation you currently are. With the 'Zoom control' buttons, you can zoom in and out for fine tuning or a more overview.

To move the 'Time cursor', click on it and drag it along the time line.

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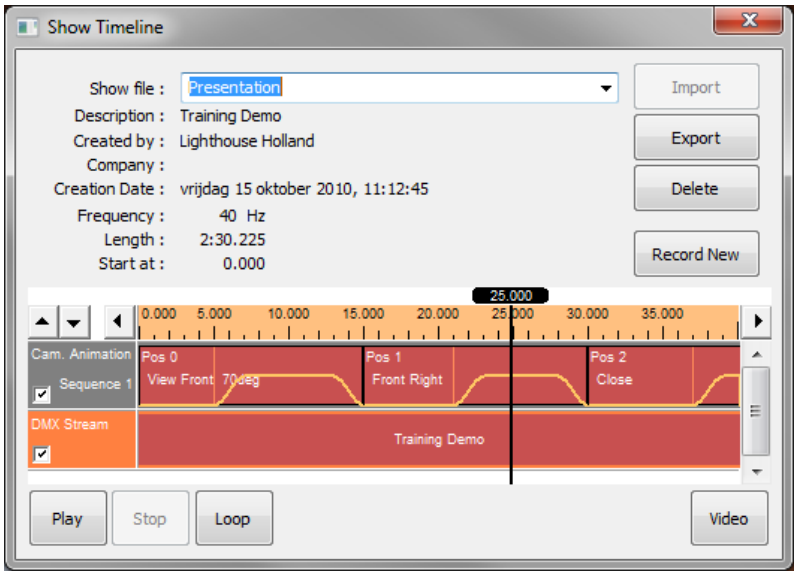
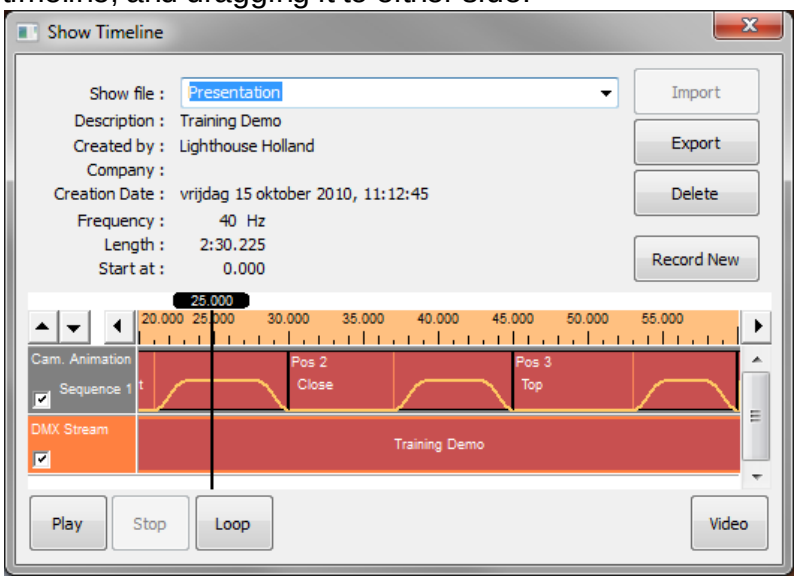


To scroll through the time line, you can use the 'Scroll controls', or by clicking in the timeline, and dragging it to either side.



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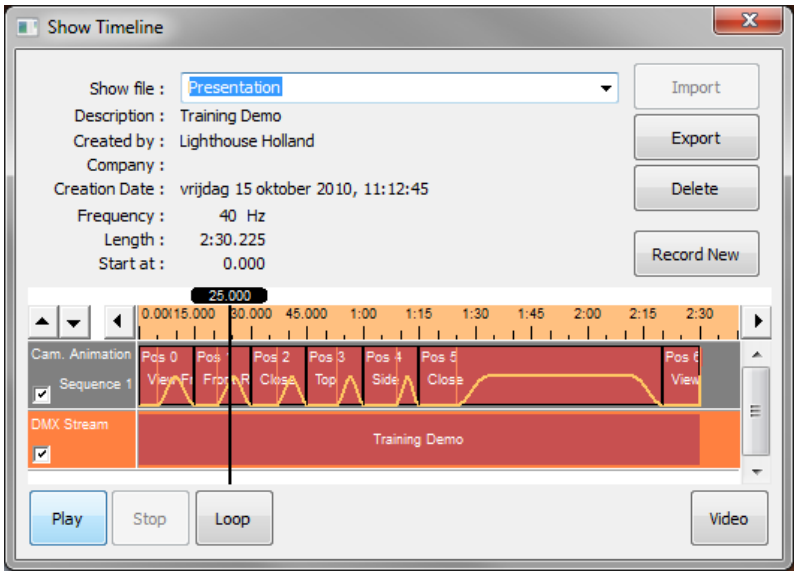
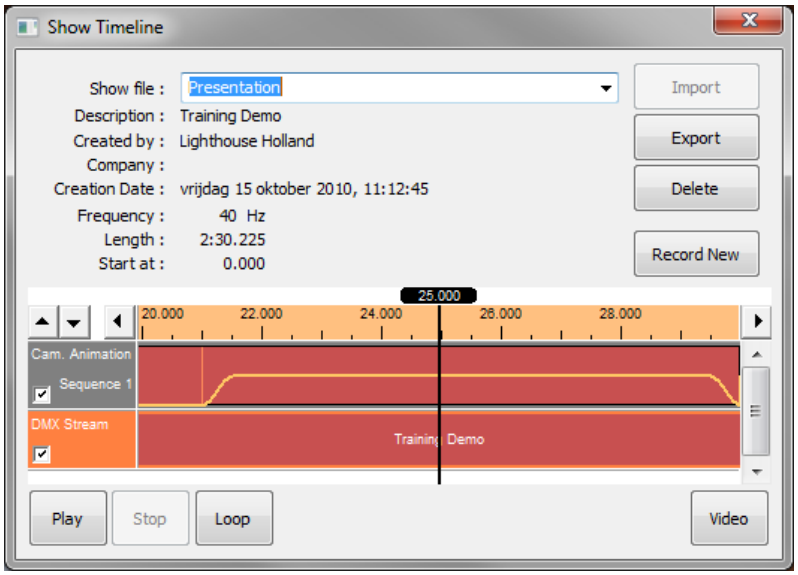
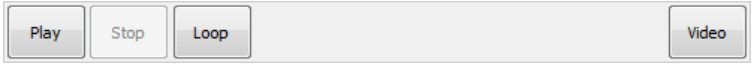
Use the zoom controls to zoom *out* for more overview ...



... or *in* for more details.



Time controls



With these controls, you can play the presentation, pause it etc to test it, and when it is ready, convert it to a video. You can also just use it as a kind of playback of the DMX track, so you do not constantly need a console connected, or even send the DMX back out to replace a console. You can toggle the 'Loop' button to automatically loop back to the beginning after the end of the presentation has been reached.

The tracks, and the creation of a video are further discussed in the next topics.

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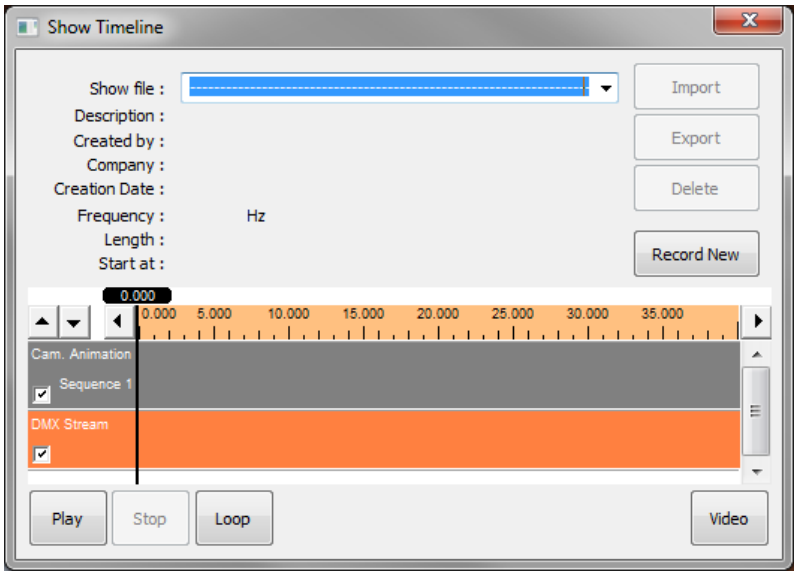
5.5.2 DMX Track

When you select the DMX Track, the following track controls will be shown, indicating that there is no DMX Show:



If you want to include DMX in your presentation, you will need to have a DMX Show. This a basically a 'recording' of incoming DMX from a console, and is needed as such, because creating the presentation is not done in real-time, so we need to know what the DMX is on a certain moment in time.

To get such a DMX show, you can record incoming DMX, and store it as a file (.dmx), or just load a DMX Show that you recorded earlier. You can also import one or more such shows into your scene file for easy access.

Before starting to record a DMX Show, make sure that you select the correct DMX driver as source, and that the follow DMX mode is set to ON. (See the DMX section for details on how to do that).

To record a DMX Show, click on the 'Record New' button.
This will bring up a dialog where you can enter a description, who the creator is, and what sample frequency should be used for sampling the incoming DMX.

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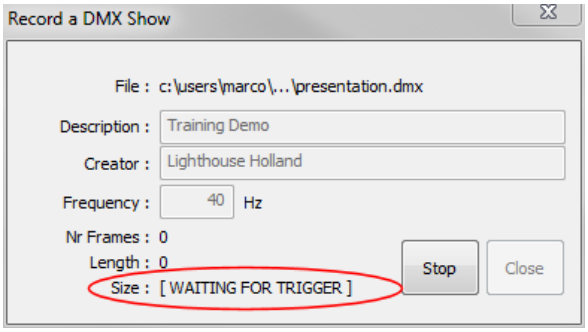
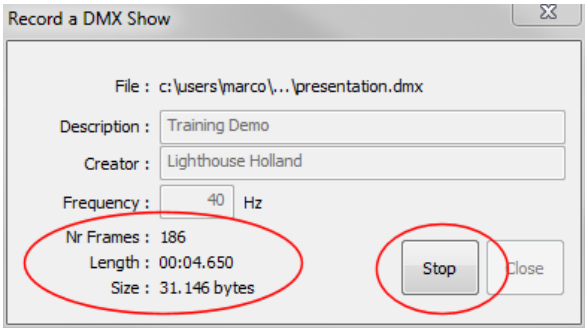
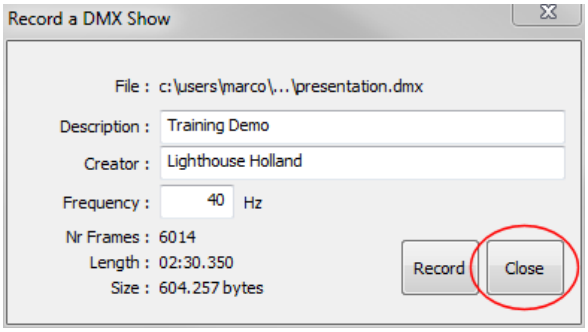
To start recording, press the 'Record' button. This will bring up a file dialog where you can specify to be used to store the show.



The dialog will now go in 'recording' mode, waiting for a change in the incoming DMX. At the moment that 1 or more DMX channel(s) change value, the actual recording is started. This allows you to start the show on your console.



After the 'trigger' is received, you see how many frames are recorded, how log it is recording, and how big the file is becoming.
Press the 'Stop' button to end the recording.



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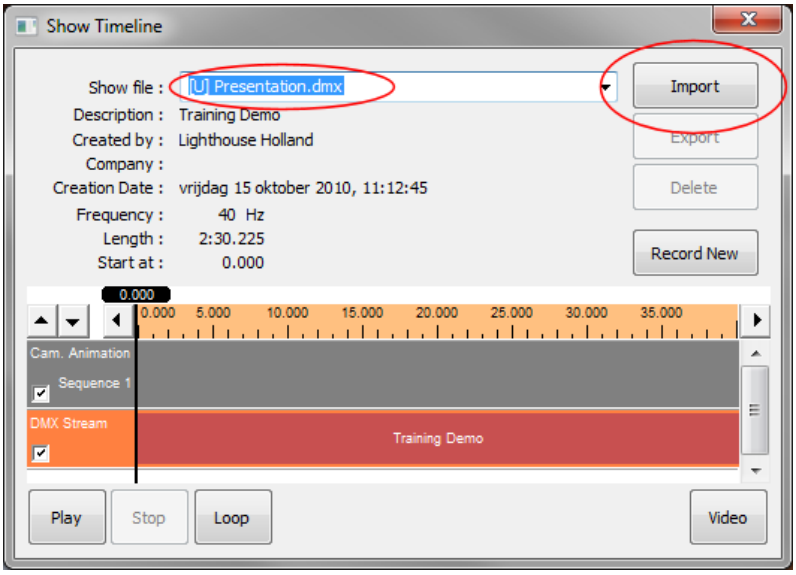
And finally press the 'Close' button to end the recording session.

In the Show timeline, the just created show is now loaded, and you can see what the source file is in the first line.



This line show whether the show is an external or internal file, and if it is an external file, where it is located.
If it is an external file, it is preceded by a [U], [C] or [F] notation, which indicates in what 'area' the file is located.

[U] = User libaries folder
[C] = Common libraries folder
[F] = external file outside of the MSD folders.
No prefix: Internal show.

If you are have a good DMX Show, and you want to keep it with the scene file, just click on the 'Import' button.

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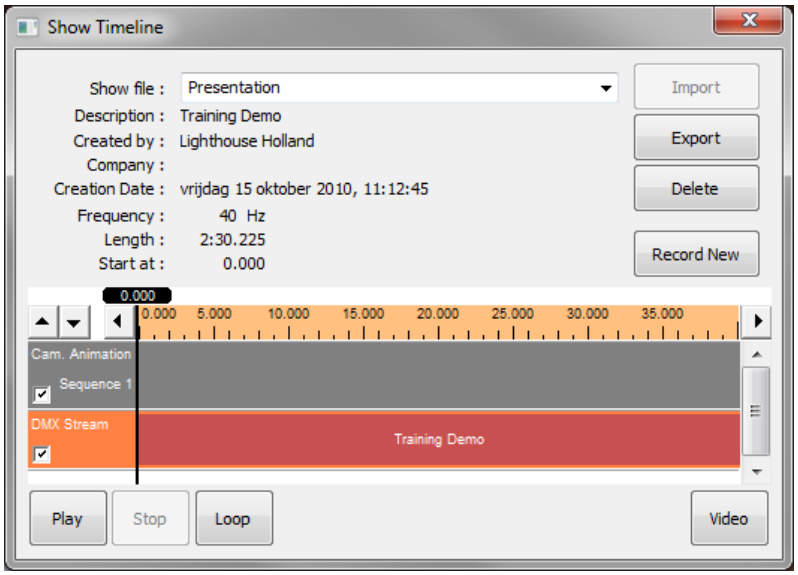
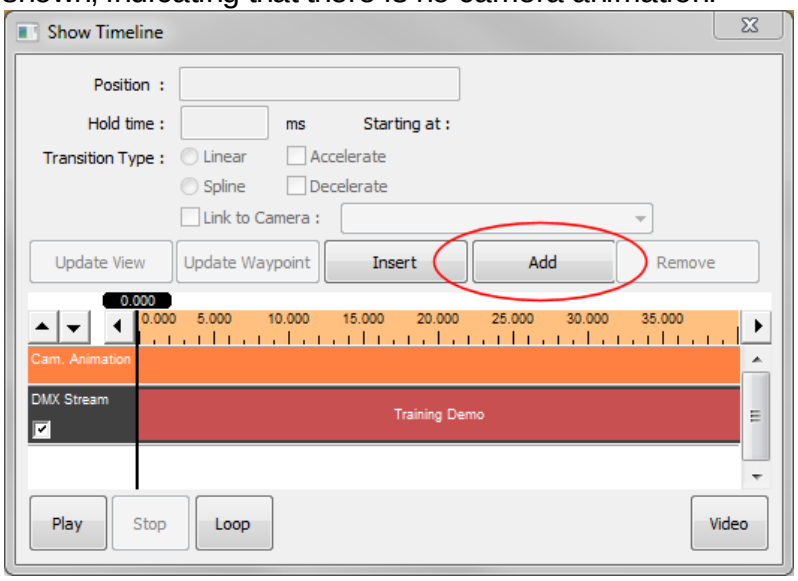


You can choose the playback the DMX Show, or jump ahead to the Recording a Video section to make a video, or continue with the next section Camera Animation Track to add camera animation to your presentation.

5.5.3 Camera Animation Track

When you select the Camera Animation Track, the following track controls will be shown, indicating that there is no camera animation:



If you want to include camera animation in your presentation, you will need to add camera positions (waypoints) to your show. You can do so by clicking the 'Add' button, which adds awaypoint at the end of the already defined waypoints, or by using the 'Insert' button, which will insert a new waypoint at the time cursor. (The 'Remove' button can be used to remove a waypoint from the track.)

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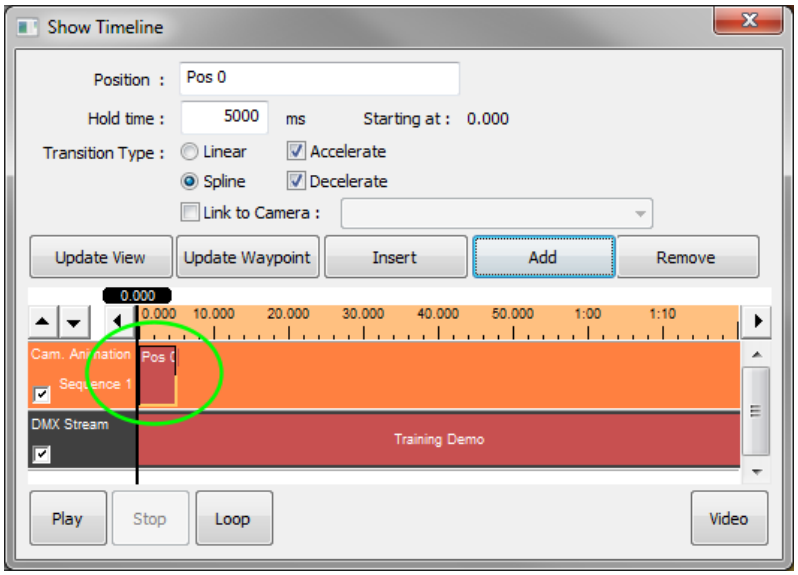
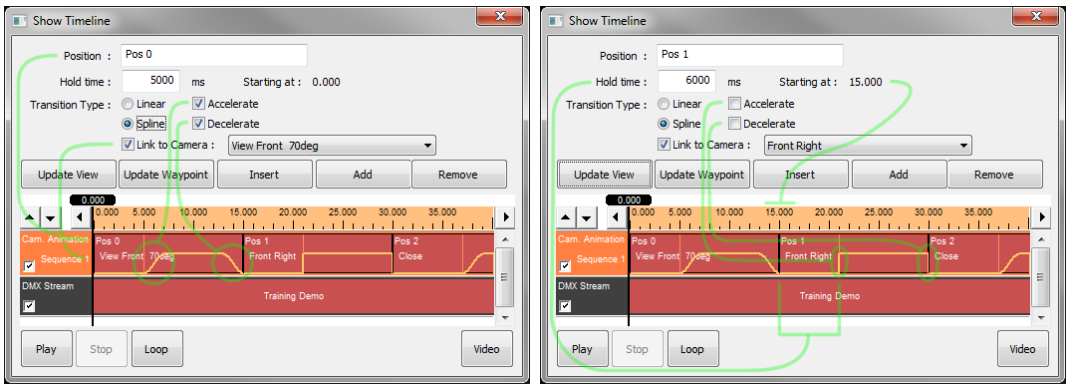


You can see the waypoint appear on the Track, and the default parameters it gets in the Track controls:

- Position : here you can enter a description of this waypoint, and is used to show in the track itself.
- Hold time :the time this camera position of this waypoint is held, before transitioning to the next camera position.
- Starting at: the 'time position' of this waypoint on the time track
- Transition Type : Linear or Spline, which determines how the camera is moved between 2 waypoints, direct or using a smooth path.
- Accelerate : check it if the camera should accelerate when starting to transition to the next position. If not, the start of the transition is 'sudden'.
- Decelerate : check it if the camera should decelerate when arriving at the next position. If not, the end of the transition is 'sudden'.
- Link to Camera : A waypoint stores its own camera settings, but by checking this option, and choosing one of your stored camera positions (see Saving and Loading cameras), the camera settings of the waypoint are linked to that camera. This means that if you change your stored camera position, the track will automatically adjust the waypoint accordingly.



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With the 'Update Waypoint' button, you can set the camera settings of a waypoint to the camera settings currently set in the scene window. (This will do noting if you have checked the 'Link' option.) The 'Update View' can be used to check the camera settings of a waypoint. It will use these to set the camera in your scene window, so you can see what the view is in that waypoint.

By builing a list of these waypoints, you have now constructed a camera animation through your scene which, together with a DMX show, can be used to create a video, which is described in the next section: Recording a Video.

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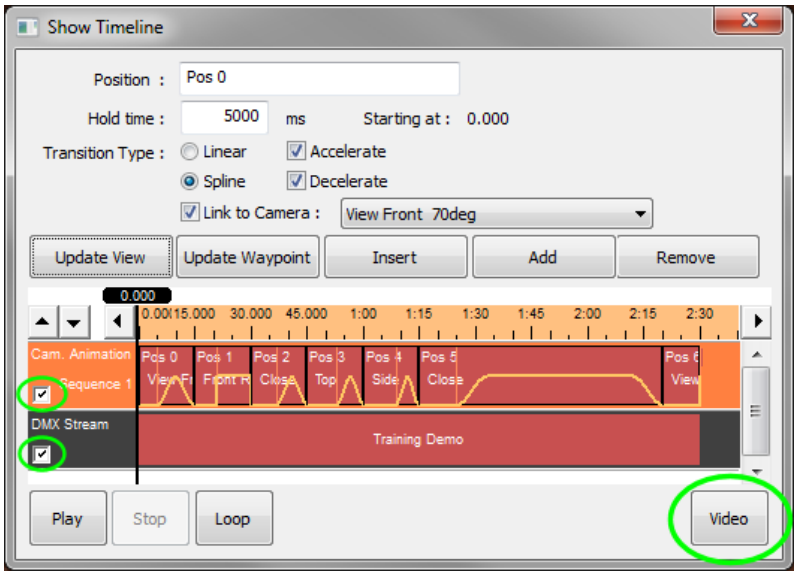
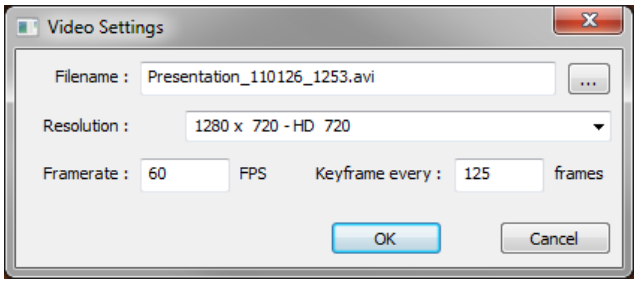
5.5.4 Recording a Video

When you are ready to create a video of your show, you can select if you want to use the DMX Show and/or the Camera animation by checking the appropriate checkboxes in the Tracks. After that, just click the 'Video' button to start the video creation process.



A dialog will appear, where you can specify where you want to save the video, what resolution video you want to create with what frame rate, and how many keyframes you want to use.



The filename will present you with a filename suggestion, which consist of the Scene filename, the date and the time, so you will get unique, easy to recognize list of videos, but you can enter any filename you choose.

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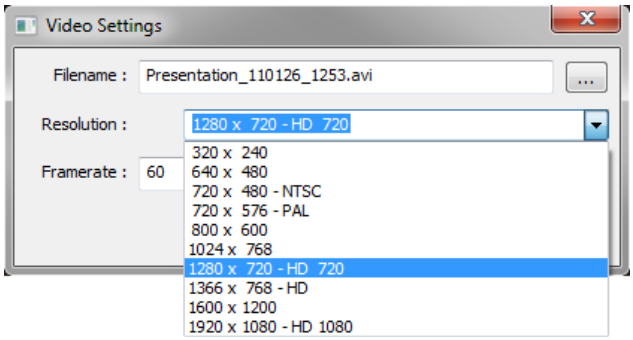
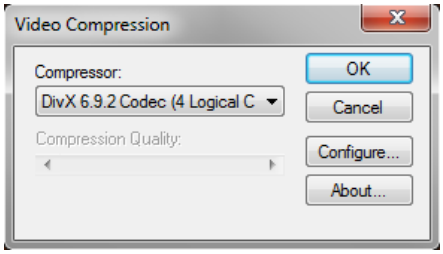
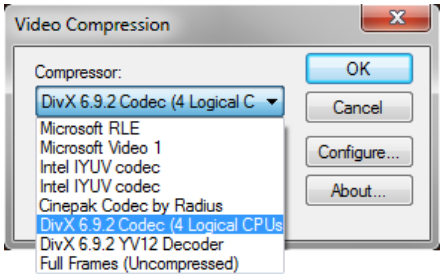


For the resolution of the video, you can choose from a list of well known formats.

Click on 'OK' to continue, which will present you with a dialog where you can select which video codec you want to use, and some controls to configure the codec. It will look something like this:



Exactly which codecs you get depends on which video codecs are available on your computer. Usually there are a number of default codecs available, but you may need to install a suitable codec for your needs.



After selecting and configuring the codec, you can press OK to start the actual creation of your video.
(The settings you have entered in the previous dialogs will be saved and presented automatically the next time you create a video.)

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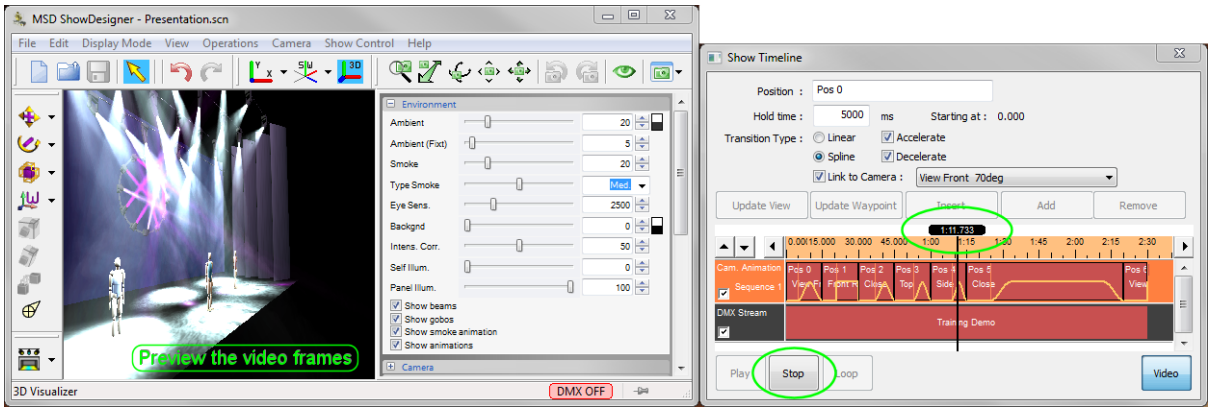
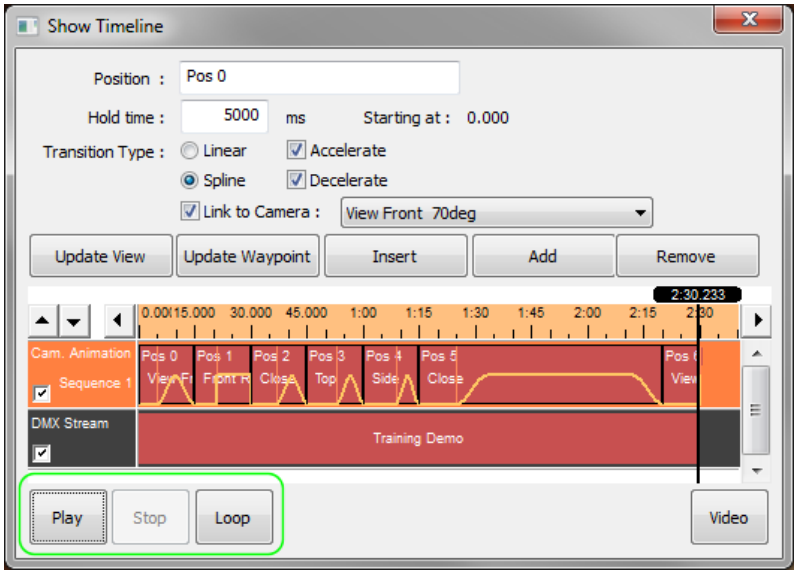


While the video is created, you can see a preview of the frames in your scene view. (It may look distorted, because the video resolution and aspect ratio is different from the scene view.) In the Show time line the time cursor will indicate the progress of the video creation. You can always stop the process using the 'Stop' button.



The video is ready when it reaches the end of the Camera Animation and/or DMX Show, whichever ends last. You can see when it is ready from the status of the buttons when 'Stop' is disabled, and the 'Play' button is available again).

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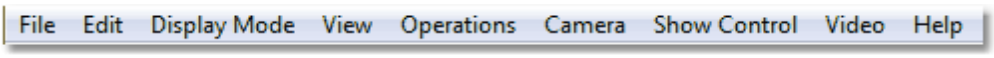
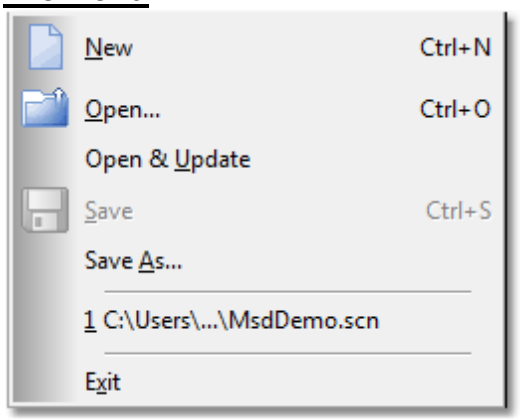
5.6 Reference

5.6.1 Menu

Menu Bar



File Menu



File | New

Shortcut : **Ctrl+N**
This menu is used to start a new scene. The program will ask you to save any changes to the current scene if another scene is already open.

File | Open

Shortcut : **Ctrl+O**
This menu is used to open an existing scene. You will be presented with the standard file dialog in the 'scenes' directory. After you have selected a scene, the current scene will be closed and the new scene will be opened. If the current scene was changed since the last save you will get the opportunity to save these changes or cancel the open command. Note that a scene can only be opened by one program at any time, so if the scene you selected is already opened by the ShowDesigner, it will fail to open in 3D Visualizer.
If there are any problems, like missing files, or issues with licenses, the report view will open to inform you of these issues

File | Open & Update

The menu is also used to open an existing scene. With Open & Update, the program will replace all fixtures in the scene with the latest available version of each fixture. Afterwards the report view will open and inform you about the replaced fixtures

File | Save

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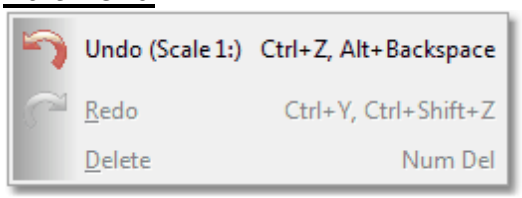
Shortcut : **Ctrl+S**
The menu option 'Save' is used to save the current scene. If the current scene was never saved before, you must enter a name for this new scene.

File | Save As
This menu item is used to save the scene with a new name. When you use this option you must select a new name for the scene, the scene is then saved using this name. Any subsequent saves of the scene will be done using this new name.

File | Recent files
Here you will find a list of recently saved/opened scenes. By selecting one of these scenes you can open the selected scene.

File | Exit
Shortcut : **Alt+F4**
This option will shut down the program. If there is a scene open and if this scene was changed since the last save, you will be asked whether or not to save these changes or cancel the operation.

Edit Menu



Edit | Undo

Shortcut : **Ctrl+Z**
This option will undo the last action (if there is one). The text after 'Undo' indicates the nature of the last action.

Edit | Redo

Shortcut : **Ctrl+Y**
This option will redo the last 'undone' action (if there is one). The text after 'Redo' indicates the nature of the last 'undone' action

Edit | Delete
Shortcut : **Del**
This option will delete the picked object.

Edit | Clear Pick
Shortcut : **ESC**
This option clears the current pick. Only the 'picked' (red-boxed) item will be unpicked.

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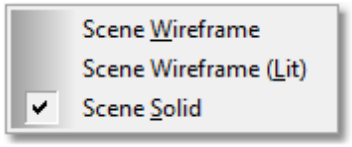
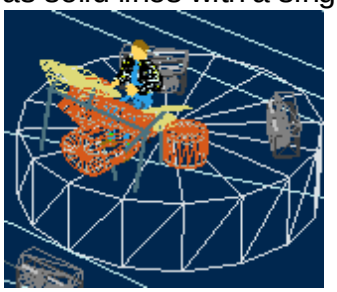
Any selected items remain 'selected'.

Edit | Deselect All
Shortcut : **Shift+ESC**
This option clears the selection and pick. The 'selected' (green-boxed) items and the 'picked' (red-boxed)fixtures will be de-selected. Any picked fixture will remain 'picked'.

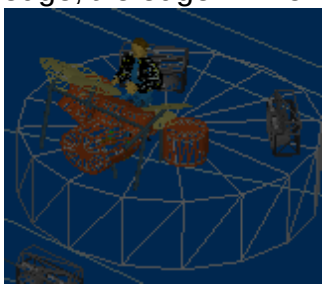
Display Mode Menu



Display Mode | Scene Wireframe
In Wire frame mode, all objects and fixtures in the scene are drawn using only the edges as solid lines with a single color.



Display Mode | Scene Wireframe (Lit)
This is almost the same as Wireframe mode, but instead of a single color for each edge, the edge will now be colored using the ambient lighting.



Display Mode | Scene Solid
This is the normal setting in which the scene is drawn as solid objects, shaded using the ambient lighting

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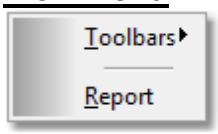
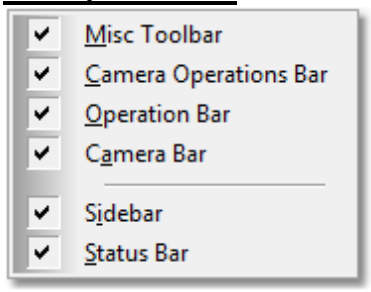
View Menu



View | Toolbars

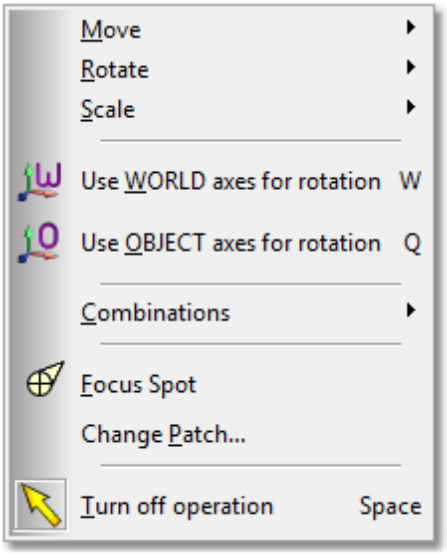


This menu is used to show or hide the different toolbars and sidebar. For an overview of all the buttons in the toolbars you can look at the Toolbars reference, for more information on the sidebar you can check the Sidebar reference

View | Report

'Report' will show the Report Window. For more information about the report, check the Report View section of this manual

Operations Menu



Operations | Move

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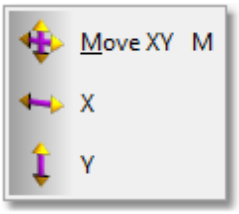


The Move operations allow you to interactively manipulate the position of fixtures and objects horizontally and/or vertically by clicking on the item that you want to move and dragging the mouse. These operations work best when you have a 2D or isometric camera selected.

Operation | Move | XY

Shortcut : **M**
'Move XY' allows you to move the picked item both horizontally and vertically at the same time

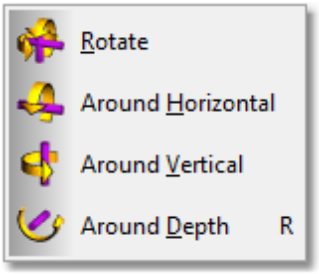
Operation | Move | X

'Move X' allows you to move the picked item horizontally

Operation | Move | Y

'Move X' allows you to move the picked item vertically

Operations | Rotate



The Rotate operations allow you to interactively manipulate the orientation of an object or fixture by clicking on the item that you want to rotate and dragging the mouse.

Operation | Rotate | Rotate

'Rotate' allows you to rotate the picked item around both the horizontal and vertical axis.

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Operation | Rotate | Around Horizontal

'Around Horizontal' allows you to rotate the picked item around the horizontal axis.

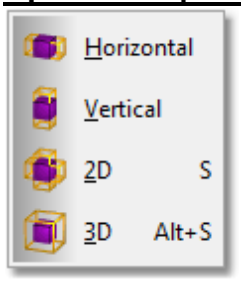
Operation | Rotate | Around Vertical

This option allows you to rotate the picked item around the vertical axis.

Operation | Rotate | Around Depth

Shortcut : R
This option allows you to rotate the picked object around the depth axis.

Operations | Scale



The Scale operations allow you to interactively manipulate the size of an object by clicking on the object that you want to scale and dragging the mouse.

Operation | Scale | Horizontal

'Horizontal' allows you to scale an object horizontally.

Operation | Scale | Vertical

'Vertical' allows you to scale an object or vertically.

Operation | Scale | 2D

Shortcut : **S**
'2D' allows you to scale an object horizontally and vertically at the same time.

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Operation | Scale | 3D

Shortcut : **Alt+S**
'3D' allows you to scale an object uniformly in 3 dimensions.

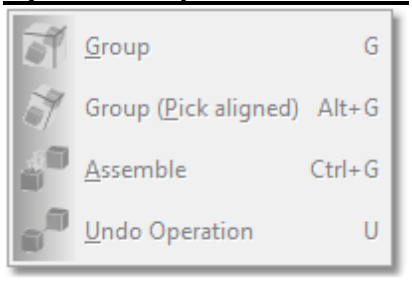
Operations | Use WORLD axes for rotation

Shortcut : **W**
Use the world 'X', 'Y' or 'Z' axis for rotation.

Operations | Use OBJECT axes for rotation

Shortcut **: Q**
Use the objects local 'X', 'Y' or 'Z' axis for rotation.

Operations | Combinations



'Combinations' are operations that involve more then one object and/or fixture. The first three items in this menu will take a number of objects/fixtures and combine then to one item. The last menu item will break the combination into its separate objects / fixtures.

Operation | Combine | Group

Shortcut: **G**
'Group' allows you to group the selected (green-boxed) and picked (red-boxed) objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'Undo Operation' operation.
This operation is only available if there is at least one selected and one picked object, or two selected objects in the scene.

Operation | Combine | Group using Axis

Shortcut: **Alt+G**
'Group using Axis' allows you to group the selected and picked objects together, using the orientation of the picked object as the orientation of the resulting group. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'Undo Operation' operation. This operation is only available if there is at least one selected and one picked object in the scene.

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Operation | Combine | Assemble

Shortcut: **Ctrl+G**

'Assemble' is another form of grouping, where the selected objects are connected to the picked object. This picked object will become the 'master' of the assembly. Picking this 'master' will pick the whole assembly just like a group. Picking one of the other objects only selects that part of the assembly, giving you access to the properties of that single part. For instance. if you have a bar and on that bar hang 4 PARs. By selecting the 4 PARs (green boxed), picking the bar (red boxed) and using the assemble operation you can create a 4 bar. If you now pick the bar you can move and rotate the bar including the PARs, but by picking a single PAR you can still change it's color without having to undo the combination

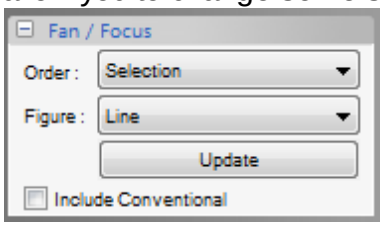
Operation | Combine | Undo Operation

Shortcut: **U**

'Undo Operation' allows you to split a group or assembly into its components.

Operations | Focus Spot

This operation can be used to quickly point a group of fixtures to a single point. The operation can also be used to point the group along a line or a circle.
After you select this operation, you can add fixtures to the group by clicking on a fixture. If a fixture is part of the group blue box will be drawn around it. If you click on a fixtures that is already part of the group, it will be removed from the group.
A section in the sidebar will also become visible, this section has some controls that allow you to change some settings of the operation.



A click with the left mouse button somewhere else in the scene area will cause all fixtures in the group to be aimed at that point. If you hold down the left mouse button, you can drag this point. If you press the 'F' key while you are holding down the left mouse button the operation goes into fan mode. In this mode all fixtures in the group are pointed along a figure. The type of figure depends on the settings in the side bar. By further dragging the mouse you can change the figure. Instead of clicking the mouse button and pressing the 'F' key to start the fan mode, you can also use the double click to start the fan mode.
The controls in the sidebar let you change the order in which the fixtures are fanned, or change the kind figure that is being used for the fan operation. After you change one of these settings, you can use the Update button to recalculate the fan with the new settings.
The DMX changes required to point the fixtures to the correct location will be

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transmitted as DMX values. That is if Follow (External) DMX is turned on and the selected connection allows sending of DMX values.

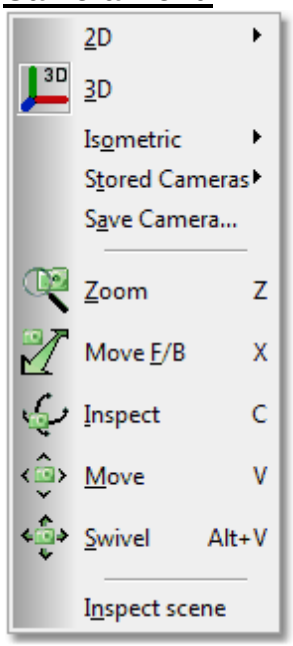
The last setting lets you include conventional fixtures, this will mkae it easier to spread a group of conventional lights

Operations | Change Patch
[TODO]

Operations | Turn off operation

Shortcut : **Spacebar**
Stops any active operations, and de selects the current operation.

Camera Menu



The items in this menu all relate to how the scene is viewed. For more information please check the Cameras section of this manual

Camera | 2D

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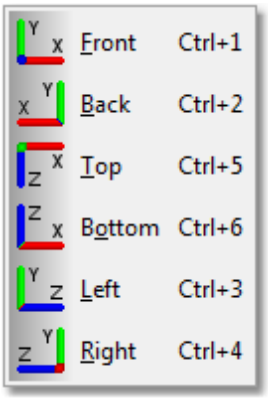
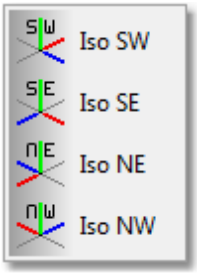


These menu items all select one of the predefined 2D orthographic camera settings. For more information please check the Cameras section of this manual

Camera | 3D

Shortcut : Ctrl+0
This menu item will switch the camera to a perspective view setting. For more information please check the Cameras section of this manual

Camera | Isometric



These menu items all select one of the predefined isometric camera settings. For more information please check the Cameras section of this manual

Camera | Stored Cameras
'Stored Cameras' will show a menu with all the stored camera settings of the current scene. In this menu you can select the stored camera setting to use. For more information please check the Cameras section of this manual

Camera | Save Camera
'Save Camera' allows you to save the current camera setting for later use. For more information please check the Cameras section of this manual

Camera | Zoom

Shortcut : **Z**
'Zoom' selects the zoom operation of the camera. For more information please check the Camera operation section of this manual

Camera | Move F/B

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Shortcut : **X**
Move F/B selects the move forward/back operation of the camera. For more information please check the Camera operation section of this manual

Camera | Inspect

Shortcut : **C**
'Inspect' selects the inspect operation of the camera. For more information please check the Camera operation section of this manual

Camera | Move

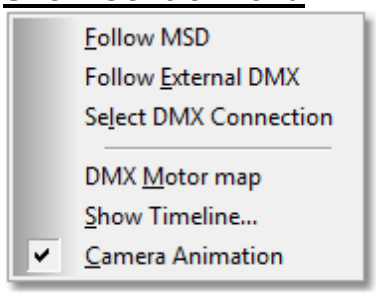
Shortcut : **V**
'Move' selects the move operation of the camera. For more information please check the Camera operation section of this manual

Camera | Swivel

Shortcut : **Alt+V**
'Swivel' selects the swivel operation of the camera. For more information please check the Camera operation section of this manual

Camera | Inspect scene
This menu item starts and stops the inspect mode of the camera. For more information please check the Cameras section of this manual

Show Control Menu



The show control menu has items that deal with DMX and the creation of a presentation

Show Control | Follow MSD
'Follow MSD' will make the visualizer use the internal link between MSD modules for DMX values.

Show Control | Follow External DMX
'Follow External DMX' will make the visualizer use the external DMX connection for DMX values

Show Control | Select DMX Connection

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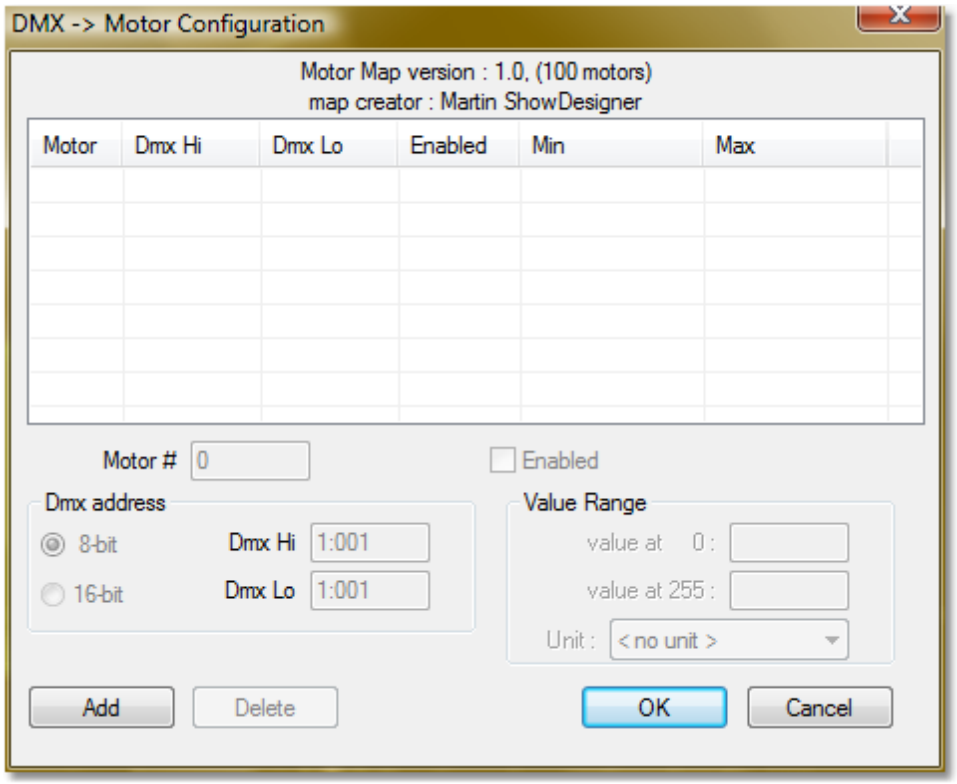
'Select DMX Connection' allows you to select one of the installed DMX connection drivers and change its settings (if applicable). **NOTE:** If you change the DMX connection this will also have effect on the ShowDesigner module, and will only take effect the next time you start the visualizer.

Show Control | DMX Motor map

'DMX Motor map' will display a window where you can setup a connection between DMX channel values and motor values.



This allows you to simulate motor values with DMX channels. Normally these motor values are set by separate control equipment that controls hoists and other mechanical parts of the show. By simulating these values with DMX, you can use the lighting desk to control the dynamic elements in the visualizer.

Show Control | Show Timeline

This menu item will display the Show Timeline window. The Show Timeline can be used to create a presentation and a video. For more information please check the Creating a Presentation section of this manual

Show Control | Camera Animation

'Camera Animation' can be used to toggle the camera animation during the playback of a show. When it is turned of the camera settings will not change during playback. When it is turned on, the camera settings will change according to the camera animation defined in the current scene.

Video Menu

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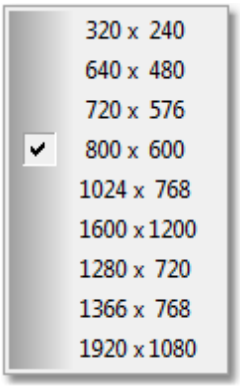
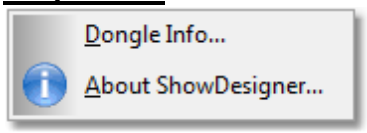


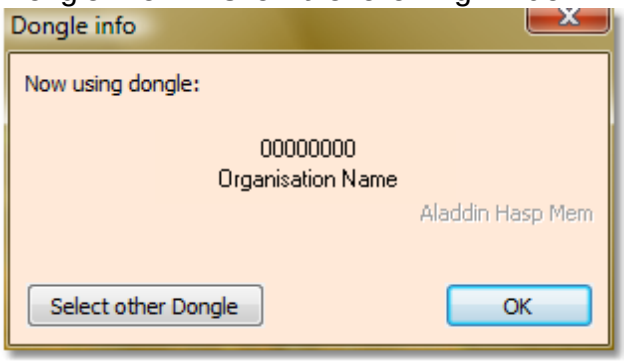
The 'Video' menu has a number of items that determine the resolution used in creating videos. When you create a video of a show, the visualizer will use the selected resolution as the resolution of the video.

Help Menu



Help | Dongle Info

'Dongle Info' will show the following window.



This will give information about the dongle that is being used by the program, and also allows you to select a different dongle.

Help | About ShowDesigner

This option will display the following window in which you can get information about the program.

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5.6.2 Toolbar buttons

Icon	Item	Hotkeys	Description
		Misc. Toolbar	
	New	CTRL+N	Opens a new Scene
	Open	CTRL+O	Allows you to open saved scenes
	Save	CTRL+S	Saves current scene
	Turn operation off	Space	Turn off the current operation (move, scale, Rotate, etc…)
	Undo	CTRL+Z	Undoes your previous action
	Redo	CTRL+Y	Redo you're your previous action after using undo
	About MSD		Opens an information window
		Operations Toolbar	
	Move	M	Move an object or fixture
	Move Horz.		Move an object or fixture left or right.
	Move Vert..		Move an object or fixture up or down
	Rotate Two Axis		Rotate an object or fixture in the horizontal and vertical axis
	Rotate Horz. Axis		Rotate an object or fixture in the horizontal axis
	Rotate Vert. Axis		Rotate an object or fixture in the vertical axis

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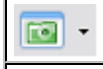
	Rotate Depth Axis	R	Rotate an object or fixture in the depth axis
	Scale Horz.		Resize only up and down
	Scale Vert.		Resize only left and right
	Scale	S	Resize an object using the mouse
	Scale XYZ	ALT+S	Resize an object in 3D
	World Axis		Move, Rotate or Scale base on World Axis
	Object Axis		Move, Rotate or Scale base on Object Axis
	Group	G	Group objects together
	Group Axis	ALT+G	Group objects with the picked object axis
	Assembly	CTRL+G	Group fixtures and objects together to create a multiple sources fixture. (Example Bar of 6 Pars)
	Undo Operation	U	Separates grouped objects into the original objects
	Focus Beam	F	As above, but moves all beams to the same position
Camera Operations Toolbar			
	Zoom	Z	Zoom the camera in and out on current view
	Camera Move To/ From	X	Move the camera in and out of current view
	Camera Inspect	C	Move the camera around on current view
	Camera Move	V	Move the camera up, down, left or right.
	Camera Swivel	ALT+V	Point the camera in a different direction
	Camera undo	ALT-Z	Undo your last camera operation.
	Camera redo	ALT-Y	Redo your last camera operation, after using undo
	Select Camera		Select a saved camera position
	Full View		Resets camera position and zoom so you can see your whole scene
Camera Toolbar			
	Front View	CTRL+1	2D Orthographic view from the front
	Back View	CTRL+2	2D Orthographic view from the back

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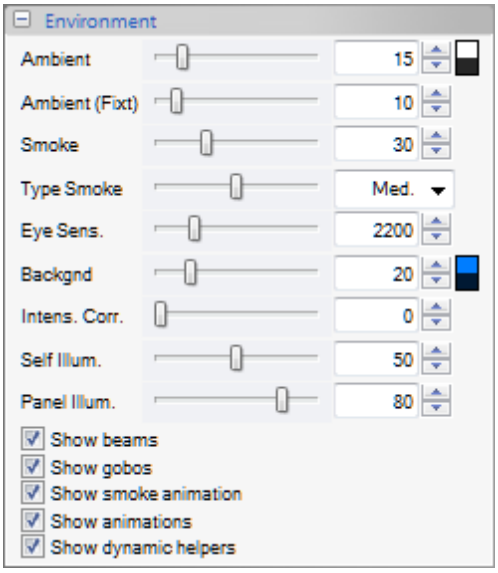
	Top View	CTRL+5	2D Orthographic view from above
	Bottom View	CTRL+6	2D Orthographic view from below
	Left View	CTRL+3	2D Orthographic view from the left
	Right View	CTRL+4	2D Orthographic view from the right
	South East View		Isometric view from right front
	South West View		Isometric view from left front
	North East View		Isometric view from right back
	North West View		Isometric view from left back
	3D View	CTRL+0	3D Perspective view

5.6.3 Sidebar

5.6.3.1 Environment



The environment section contains properties that determine how the scene looks. Please note that these settings are **not** stored within the scene, but are stored with the

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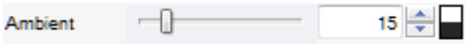
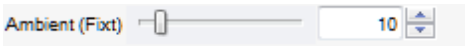
user settings.

Ambient



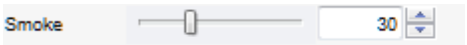
Determines the level and color of the ambient color. You can use the slider, spin buttons and edit box to set the level of the ambient lighting between 0 % and 100 %.
The two boxes on the right side display the color at 100% (the top part) and the color at the current level (the bottom part). If you click on this box you can select a new color and level for the ambient lighting.

Ambient (Fixt)



Determines the level ambient light you get from the fixtures in the scene. You can use the slider, spin buttons and edit box to set the level of influence of the fixtures on the ambient lighting between 0 % and 100 %.

Smoke



Determines the density of the smoke. You can use the slider, spin buttons and edit box the set the density between 0% and 100%. At 0% no smoke will be displayed and at 100% the smoke will be very thick. Here are some examples

Smoke @ 25%

Smoke @ 75%

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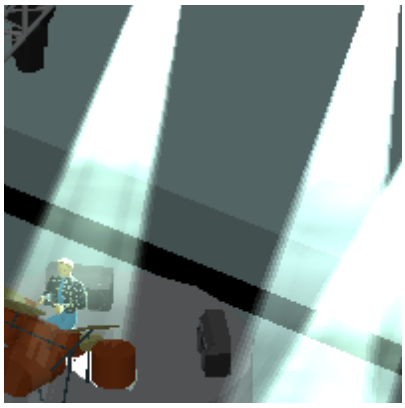


Smoke @ 100%

Type of Smoke

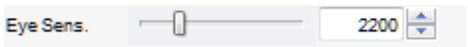
Determines the type of smoke used. You can use the slider and combo box to set the type from 'Haze' (0%) to 'Puffy' (100%).
There are three predefined entries in the combo box that you can select.

Smoketype : Haze

Smoketype : Medium

Smoketype : Puffy

Eye Sensitivity



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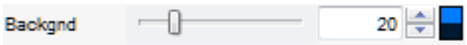
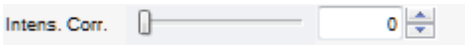
The eye sensitivity changes the intensity of all fixtures in the scene. The value you set is the intensity in candela that the program will display as white.
Making this value smaller will increase the intensity of fixtures on the screen.

Background



Determines the color of the background of the scene area. You can use the slider, spin buttons and edit field to change the brightness of the color.
The two boxes on the right side display the color at 100% (the top part) and the color at the current level (the bottom part). If you click on this box you can select a new color for the background

Intensity Correction

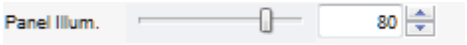


The intensity correction can be used to eliminate or lessen the difference in intensity between a very powerful fixture and a less powerful one. You can use the slider, spin buttons and edit field to set the correction between 0% and 100%. When the correction is set to 0% there is no correction. If the correction is set to 100% all fixtures will have the same intensity

Self Illumination

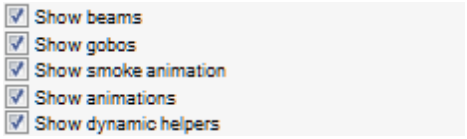
The self illumination correction can be used to dim all self illumination objects in the scene. You can use the slider, spin buttons and edit field to set the correction factor between 0% and 100%. When the correction is set to 0% there is no self illumination of any objects. When set to 100%, the self illumination of objects in the scene is not dimmed at all.

Panel Illumination



The panel illumination correction can be used to dim panels in the scene. You can use the slider, spin buttons and edit field to set the correction factor between 0% and 100%. When the correction is set to 0% all the panels in the scene will remain black. When set to 100%, the panel output is not dimmed at all.

Options



There are some options that can be turned on or off. Turning off some of these options

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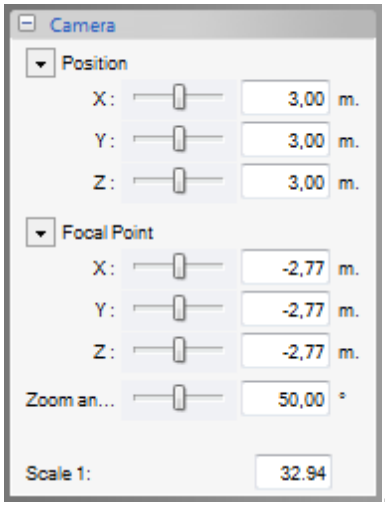
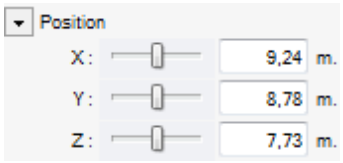
may help during the editing phase.

- Show beams.
  When switched off, no beams from any fixture are drawn. This could make editing the scene easier, especially when zoom in on a small part of the scene.
- Show gobos.
  When switched off, no gobo will be displayed
- Show smoke animation.
  When switched off, the smoke will not be animated.
- Show animation.
  When switched off, all incoming video feeds will be paused.

5.6.3.2 Camera



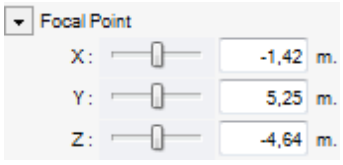
Position



Expanded view

Collapsed view

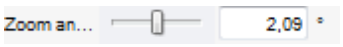
Focal Point



Expanded view

Collapsed view

Zoom angle



Scale

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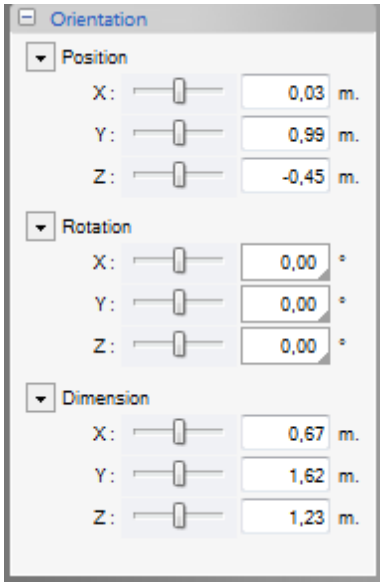
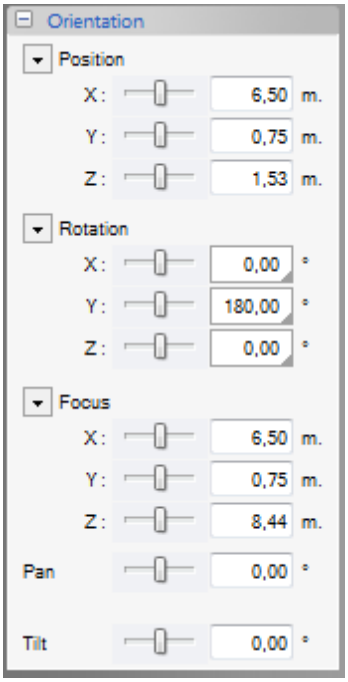
5.6.3.3 Orientation

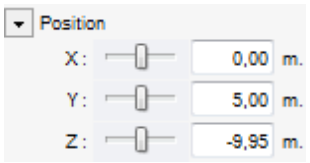


for Objects

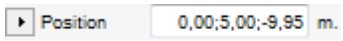


for Fixtures

Position

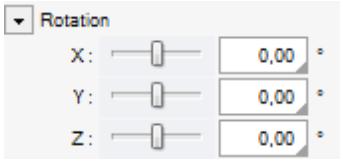


Expanded view



Collapsed view

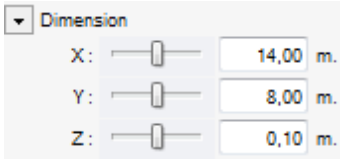
Rotation



Expanded view

Collapsed view

Dimension



Expanded view

Collapsed view

Focus

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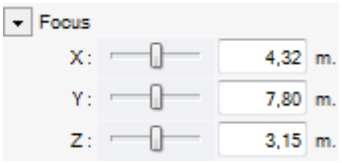
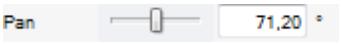


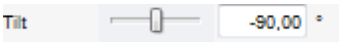
Expanded view

Collapsed view

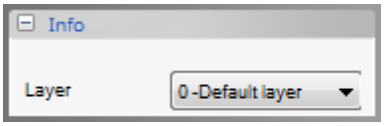
Pan



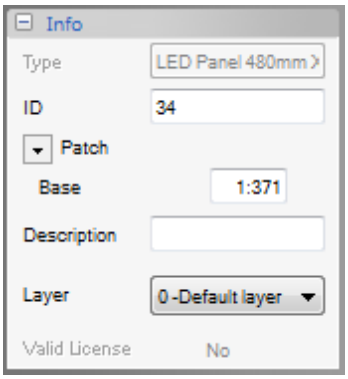
Tilt



5.6.3.4 Info



for Objects

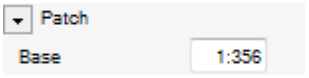


for Fixtures

Type

ID

Patch

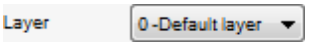


Expanded view

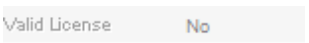
Collapse view

Description

Layer



Valid License



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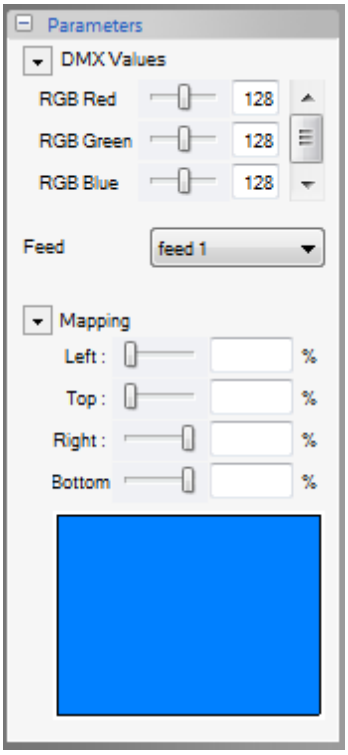
5.6.3.5 Parameters



DMX Values

Expanded view **Collapsed view**

Feed

Mapping

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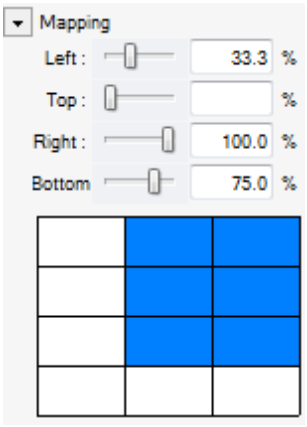
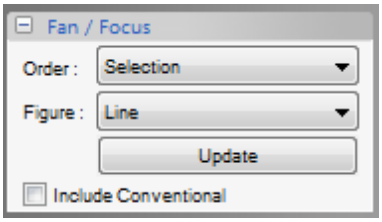


Expanded view

Collapsed view

5.6.3.6 Fan Focus



Order

Figure

Update

Include Conventional

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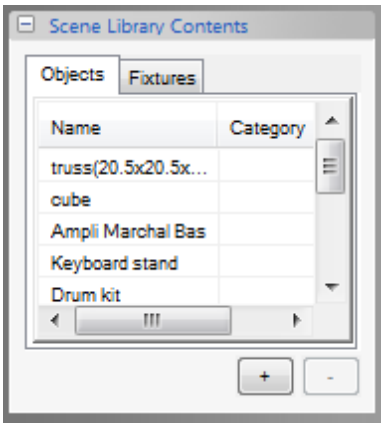
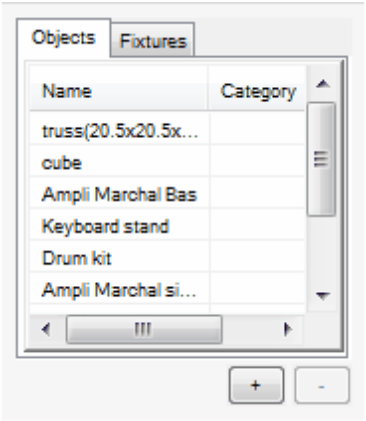
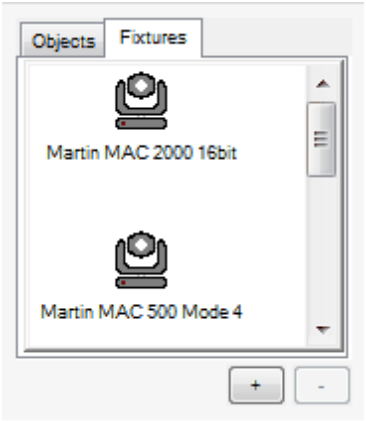
5.6.3.7 Scene Library Contents



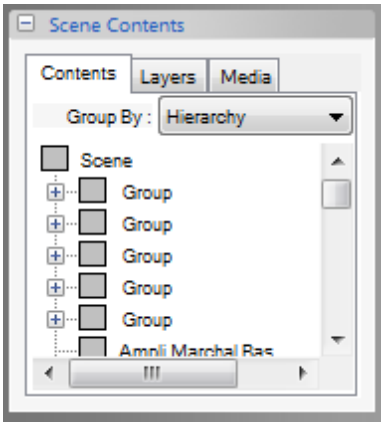


Objects



Fixtures

5.6.3.8 Scene Contents



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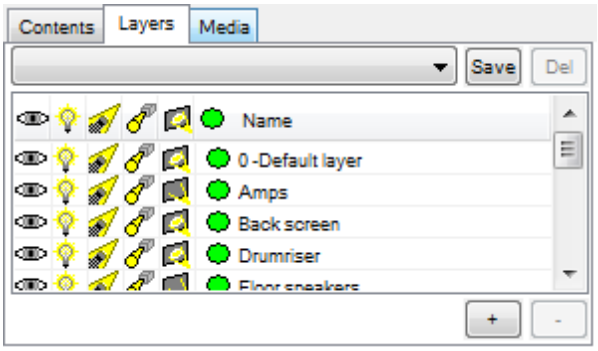
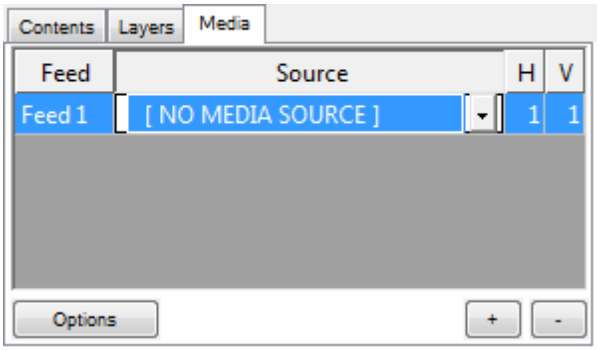
5.6.3.8.1 Contents

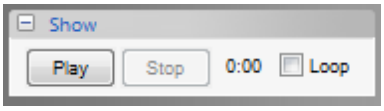
5.6.3.8.2 Layers



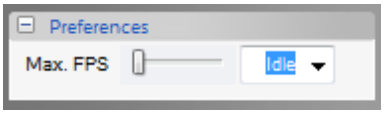
5.6.3.8.3 Media



5.6.3.9 Show



5.6.3.10 Preference



Maximum FPS

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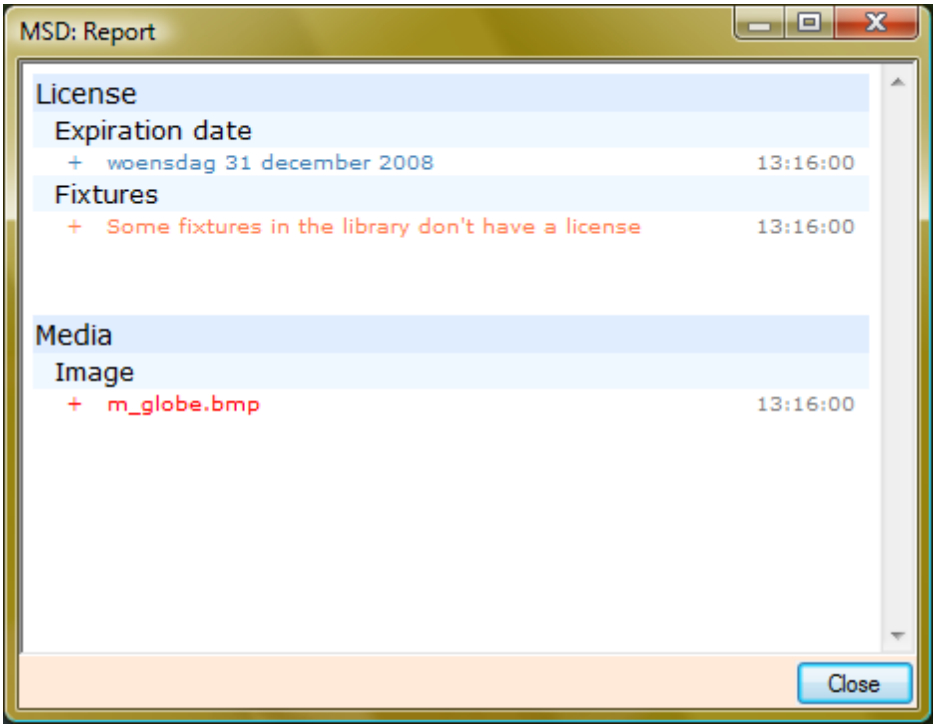
5.6.4 Report View

The report view is window in which the MSD 6 Visualizer will report any problems that occur when you are working with a scene.

You can always look at this report by using the **'View | Report View'** menu option. The Visualizer can also show the report view automatically when something important happens.



The entries in the report view are grouped by subject and category. Normally only a single line brief description of the issue is shown, with a small '+' in front of the text and the time that the issue occurred at the right of the line. In the above example of the Report view you can see three issues. As you can see these issues all have a different colors. These color indicate the severity of the issue, MSD has four levels of severity in its report views.
The least significant is the 'normal' level. This is used for unimportant issues. The next level is the 'info' level. This level is for issues that inform you about something. In this example the Expiration date is such a information issue. In this case it informs the user that the license expires at the given date.
The next level is the 'warning' level. Warning level issues usually require user actions to solve them, otherwise some part of the scene will not work properly. In this example the Fixtures category has some licensing issues. The most significant level is the 'error' level. These usually indicate problems that can not be solved within the program. In this case the Image category has an error level issue, with regards to m_globe.bmp.

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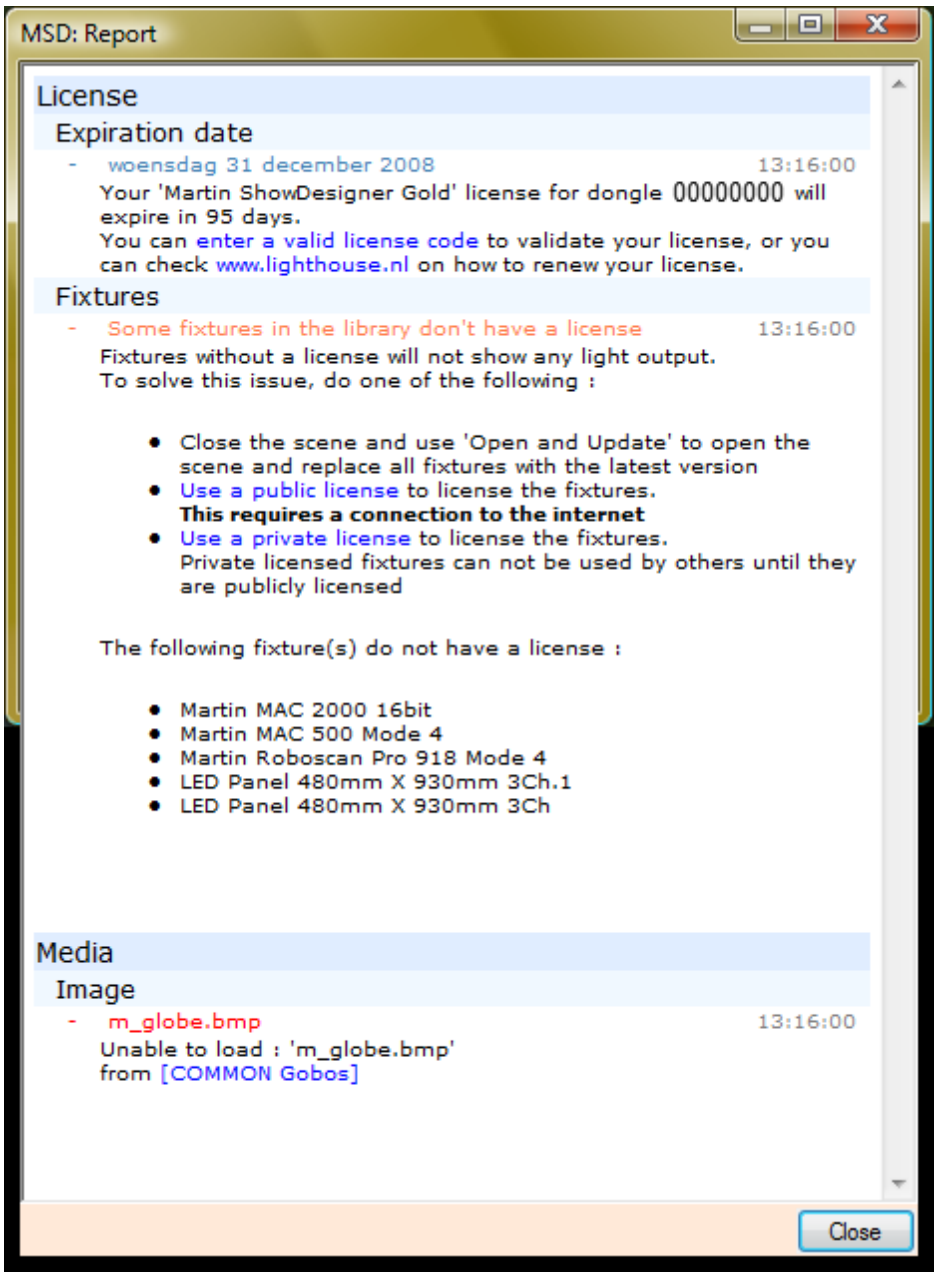
To get more information about these issues you can click on the '+' symbol to the left of the issue. If we do that for all issues in the above example we would see this window.


MSD: Report
License
Expiration date
- woensdag 31 december 2008 13:16:00
Your 'Martin ShowDesigner Gold' license for dongle 00000000 will expire in 95 days.
You can enter a valid license code to validate your license, or you can check www.lighthouse.nl on how to renew your license.
Fixtures
- Some fixtures in the library don't have a license 13:16:00
Fixtures without a license will not show any light output.
To solve this issue, do one of the following :
Close the scene and use 'Open and Update' to open the scene and replace all fixtures with the latest version
Use a public license to license the fixtures.
This requires a connection to the internet
Use a private license to license the fixtures.
Private licensed fixtures can not be used by others until they are publicly licensed
The following fixture(s) do not have a license :
Martin MAC 2000 16bit
Martin MAC 500 Mode 4
Martin Roboscan Pro 918 Mode 4
LED Panel 480mm X 930mm 3Ch.1
LED Panel 480mm X 930mm 3Ch
Media
Image
- m_globe.bmp 13:16:00
Unable to load : 'm_globe.bmp'
from [COMMON Gobos]
Close

The 'blue' text are links just like in a internet page. These links can help you to more information, or even solve the issues. The 'Use a public license' and 'Use a private license' links for instance will solve the fixture licensing issues.

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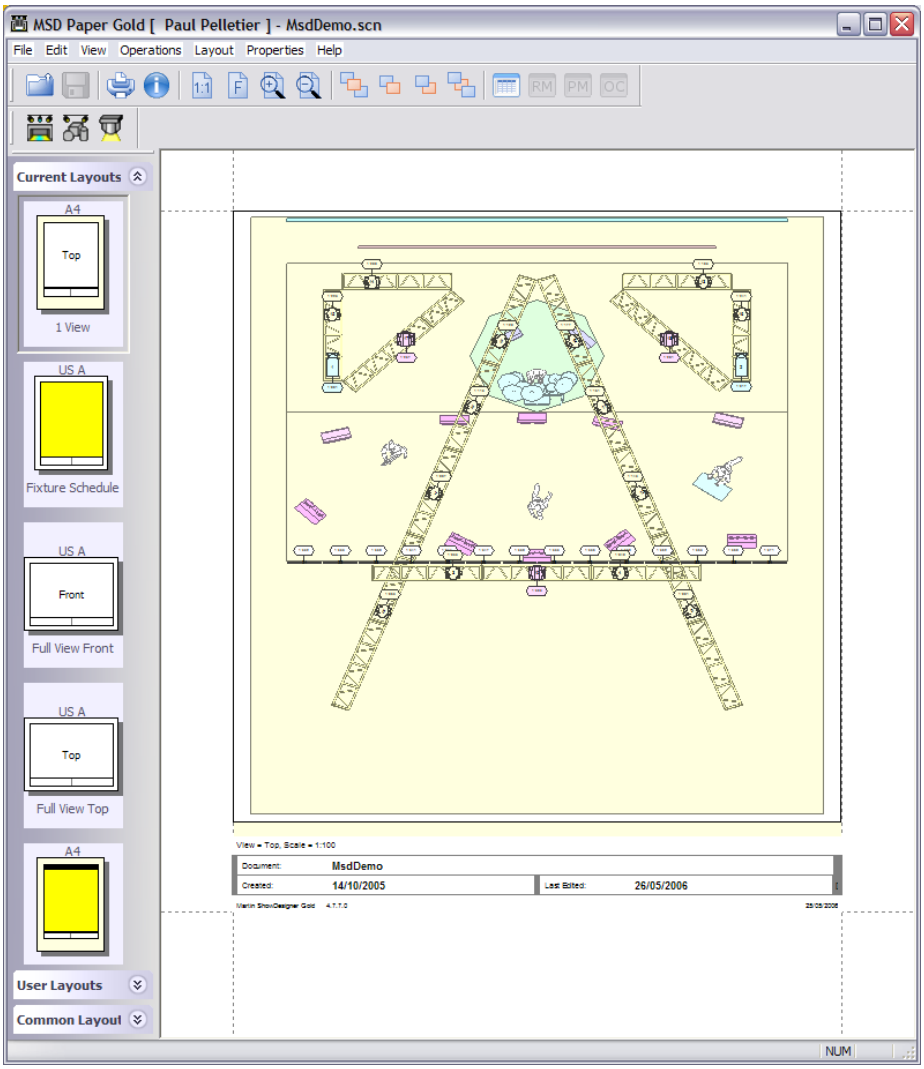
Paperwork

Part VI

6 Paperwork

The MSD Paper module is specially made to print reports and lighting plot.

It is a very flexible module that require some time to learn and setup as desired, but once mastered, it can do a lot!



6.1 Illuminance Map

How to Create and View an Illuminance Map

Illumination Maps are mainly use in architectural.

It represent the light distribution over a surface by the mean of isobar lines.

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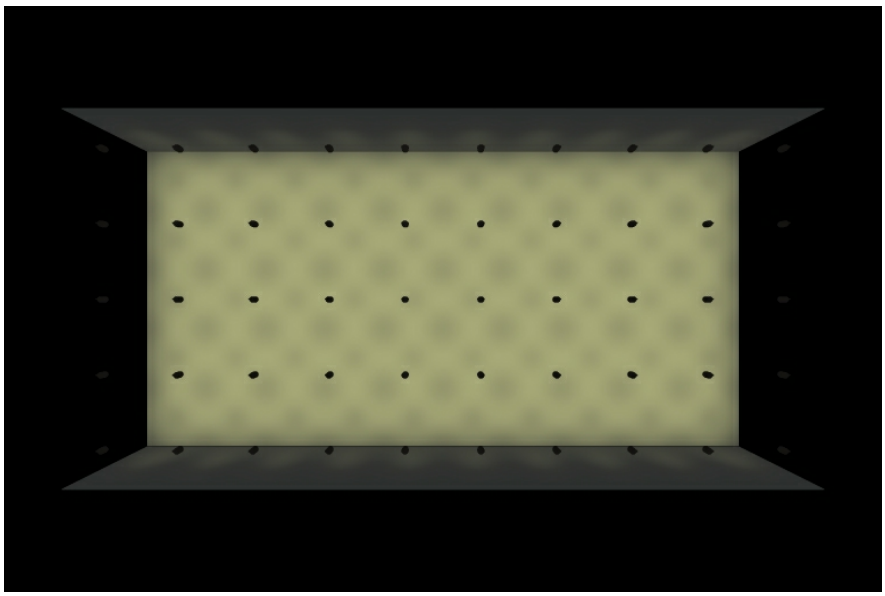
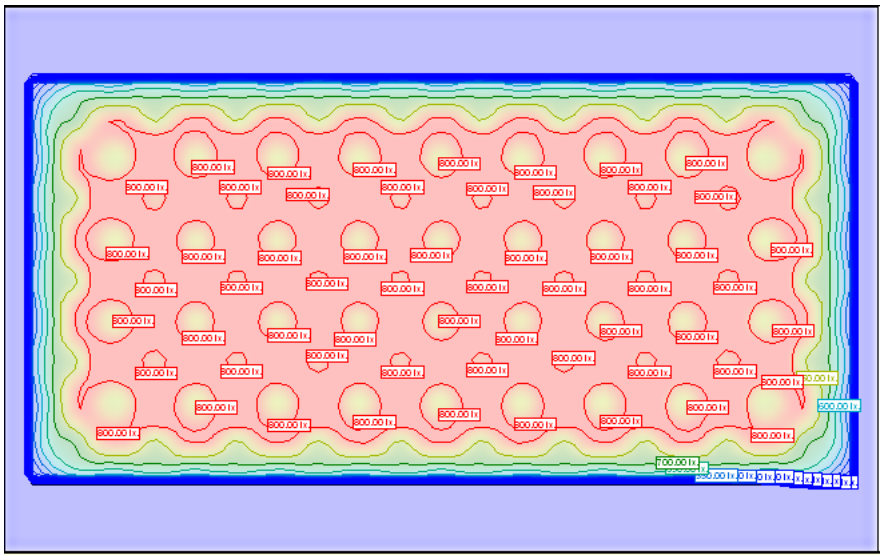
Here's an example of a regular rendering and the same view as illuminance Map





How to create this view?
All start in the Show Designer module.
Choose a 2D view and zoom to the portion of the scene you want to create an Illumination Map
From there, go to the Window menu and click on Generate Illuminance Map.

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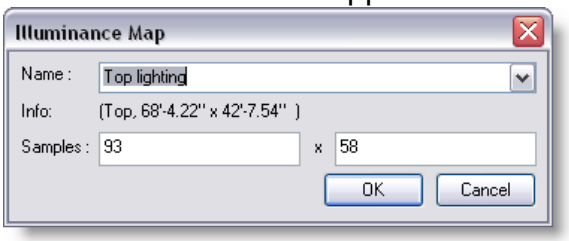
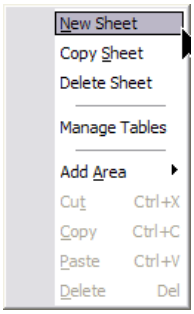
This window control will appear



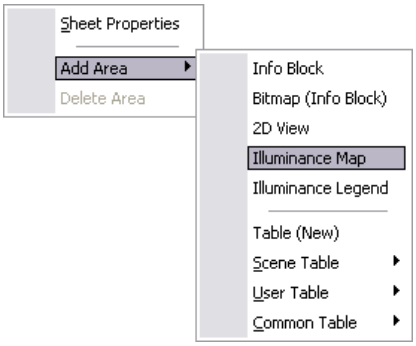
By default a name is given according to the current view, but you can change it
The sample is the number of reading done on the view, the more samples, the more accurate the reading will be.
Repeat the process to generate illuminance Map for other point of view.

Once finish, save the scene and close it. or save and press the Fast Switch to Paper Module

Start the MSD Paper Module and open the scene you just saved.
-In the Edit menu, create a new Sheet

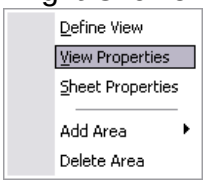


On that new sheet, add an Area for Illuminance Map, to do so, right-click and do as follow



Once the Area on the sheet, resize it to size you want.

-Right-Click on it and select View Properties



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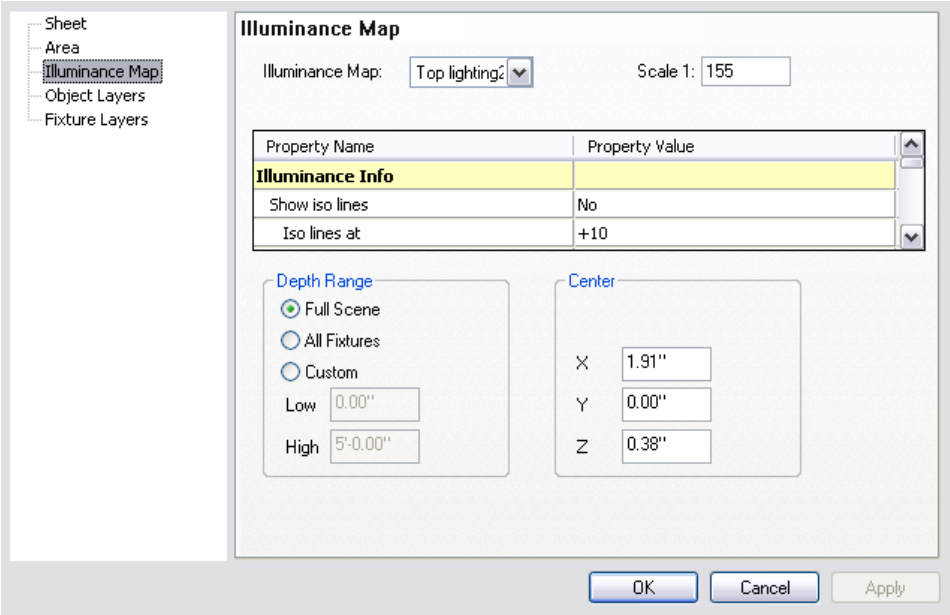
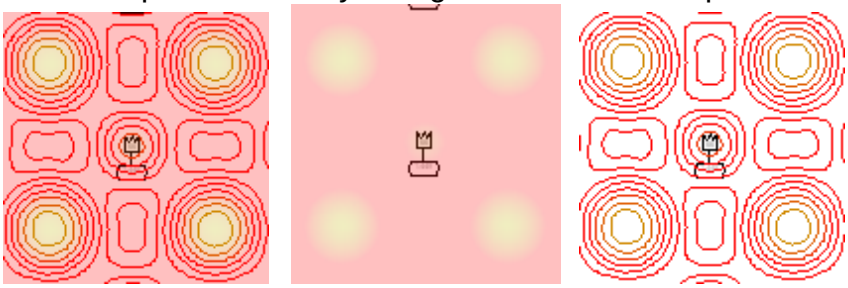
Illuminance Properties



In the Illuminance Map field select the one of the map you generated earlier in the Show Designer module.
Other settings can be changed
-Show Iso Line: To display or not the iso line on the Map
-Iso lines at: The iso lines can be defined as a ';' separated list of ranges, which are defined like this 'min-max+delta'
So '5;-1000+10;1000-5000+500;5000-+1000' will have lines at 5 lux, from 0 lux to 1000 lux every 10 lux, from 1000 to
5000 every 500 lux and from 5000 onwards every 1000 lux
(0,5,10,20, ... ,980,990,1000,1500,2000, ... , 4500,5000,6000,7000 ...)
Also you can set '+500' to see an iso line every 500 lux.
-Show Iso values: When enable, a value will be shown on every iso line
-Font: Set the font Size and Style
-Font color: Set the font color for the Iso values
-Show map: when set to yes, a graduated scale map will be shown in the background



Map and Line Map only Line only

-Map Transparency: set the intensity of the graduated map

-Illuminance Value Range: Set the range in which you are interested to see values
-Illuminance Color Range:Set the color representation of each range.

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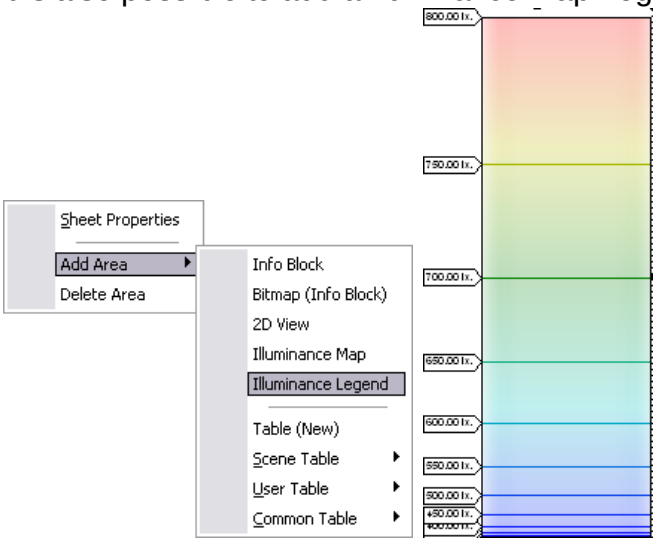
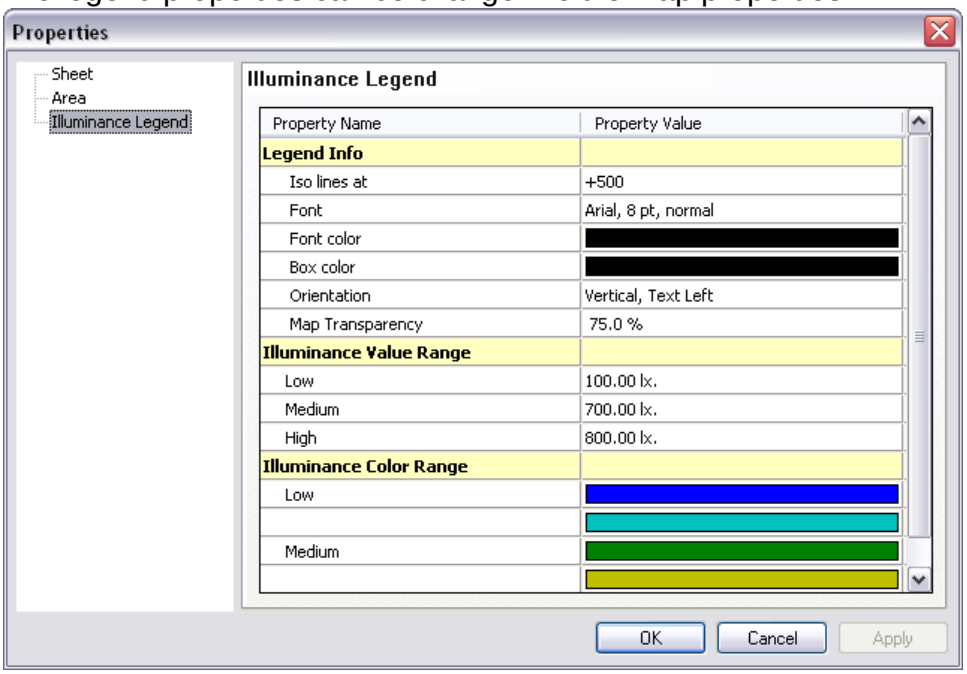
Once the setting done, click Ok to accept.

You can now set the view you want to see, right-click on the map area and select Define View.
Adjust the view and click OK.

It is also possible to add a Illuminance Map Legend



The legend properties can be change like the map properties



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Fast Net Render

Part VII

7 Fast Net Render

What is Fast Net-Render

Fast Net-Render Client
Fast Net-Render Server

7.1 What is MSD Fast Net-Render

MSD Fast Net Render is a additional application to the Martin Show Designer Gold

It has to main purpose, the first one is to use many computers to calculate rendering values to accelerate rendering time.
The second purpose is to create automated batch of rendering process.

The principle is very simple, from a MSD scene, a Renderfile is created instead of a normal rending bitmap.
Then the Renderfile is added as a task to the MSD Fast Net-Render Client.

When the Client start rendering, it will use all the computers running the MSD Fast Net-Render Server application.

For example if one computer is use and rendering takes 10 minutes to be completed, the same rendering done in MSD Fast Net-Render will take 1 minutes if 10 computer of the same processing power is use.
So in short, the more computer on the network using the MSD Fast Net-Render Server the faster it will be.

Using several computers to do the rendering is commonly called "Render Farm"

7.2 Fast Net-Render Client

Instruction on how to use the MSD Fast Net-Render Server

-Open a scene file
-From a 3D window, chose or set a camera view as desired
-Right-click and browse to Display mode / Render / Create Render File

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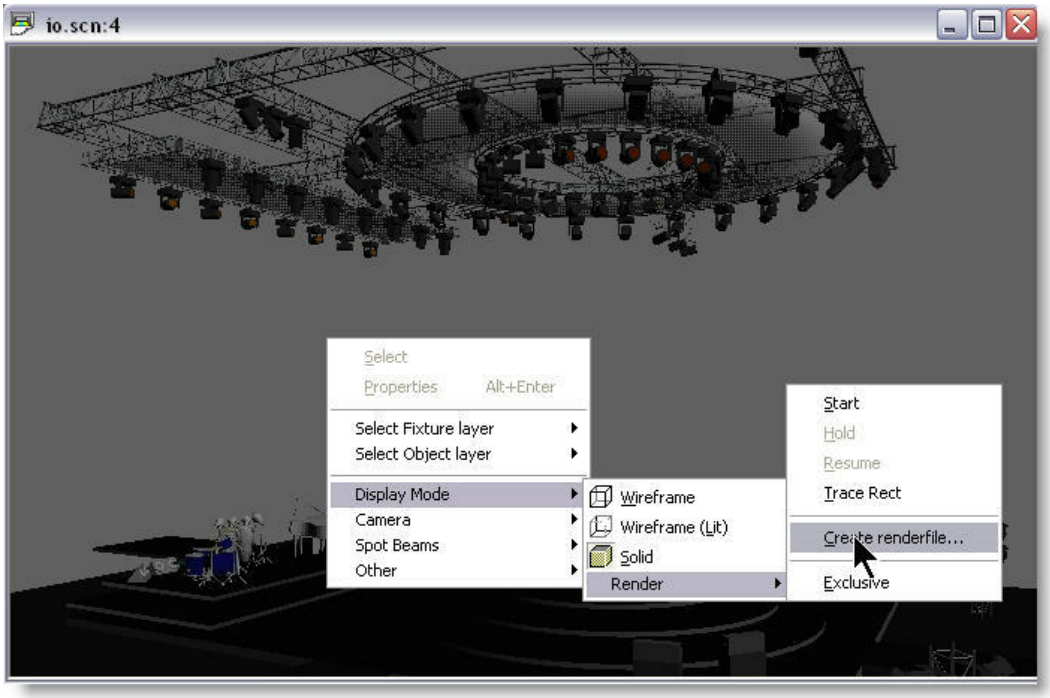
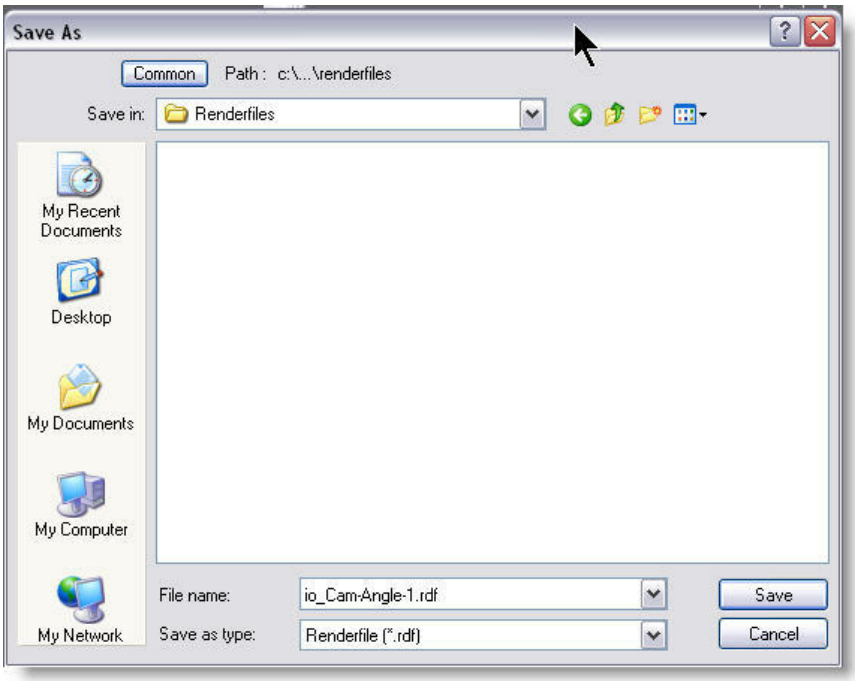


-A window will open and a suggest file name will be in the "File Name" field
-By default it will be the "Scene name_CameraName.rdf"
-The name can be changed as desired
-Then press save



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-Another window control will appear, in there change the rendering settings

Ambient:
Set the ambient level of the surrounding light (ambient light does not cast shadow)

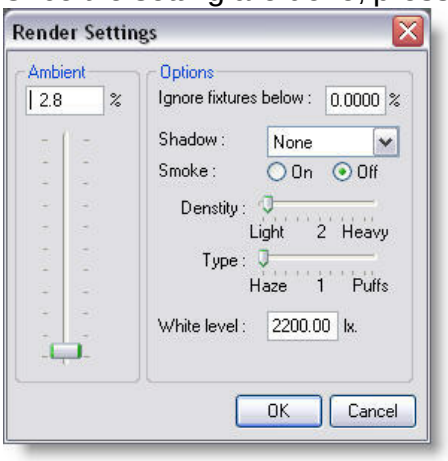
Ignore fixture Below:
If there are several fixtures set at very lo level (1 to 5% for example) setting this value at 5% will simply ignore all these fixtures.

Shadow:
[None]: No Shadow are cast (Fastest)
[On Objects]: Shadow is cast on objects, but smoke rays are not cut by objects (normal)
[Always]: Shadow as cast and smoke rays are stop by objects (slowest)

Smoke: Set the smoke effect on or off
[Smoke Density]: How thick the smoke effect will be (a setting of 3 or 4 usually makes nice and natural effect)
[Type]: How does the smoke look like... 1 is even haze and 30 is really puffy Cloud-like smoke

White Level:
Imagine the White level as the eyes sensitivity. It could be explained as the amount of light require to have a white surface looking white...
The default value of 2200.00 lux (200 foot candle) is appropriate for more stage rendering
However, for exterior architectural rendering a setting of 800 lux (75 foot candle) could be more appropriate...

Once the setting are done, press the OK button



At this moment the Renderfile will be created, you can see the progress on the status

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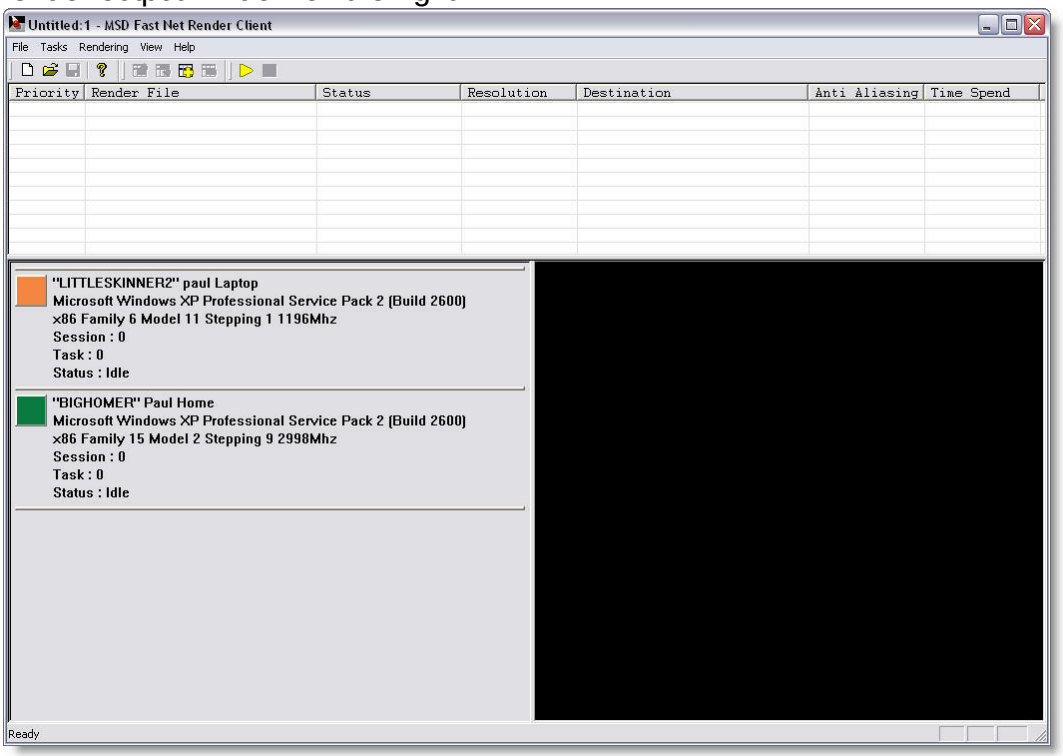
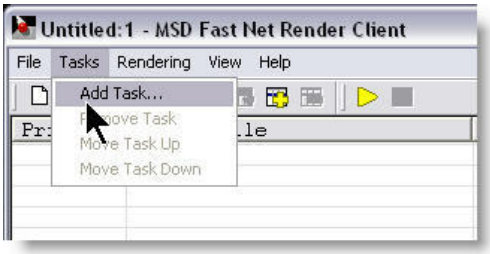
bar of the Show Designer.
A Renderfile contains all the information about the scene, from the fixtures info to the texture used, therefore the Renderfile could be sent to MSD user to be rendered...

Once the desired Renderfile are generated (example multiple camera view of the same scene), start the MSD Fast Net-Render Client
In that view you see the task list at the top, the running servers on the bottom left and the render output window on the right


Untitled:1 - MSD Fast Net Render Client
File Tasks Rendering View Help
Priority Render File Status Resolution Destination Anti Aliasing Time Spend
"LITTLESKINNER2" paul Laptop
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 6 Model 11 Stepping 1 1196Mhz
Session : 0
Task : 0
Status : Idle
"BIGHOMER" Paul Home
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 15 Model 2 Stepping 9 2998Mhz
Session : 0
Task : 0
Status : Idle
Ready

A task can be added From the Task menu or by pressing the [+] icon



A window appear, press the Input File Browse button

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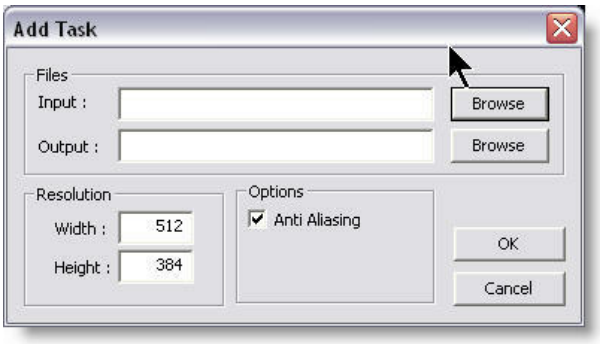
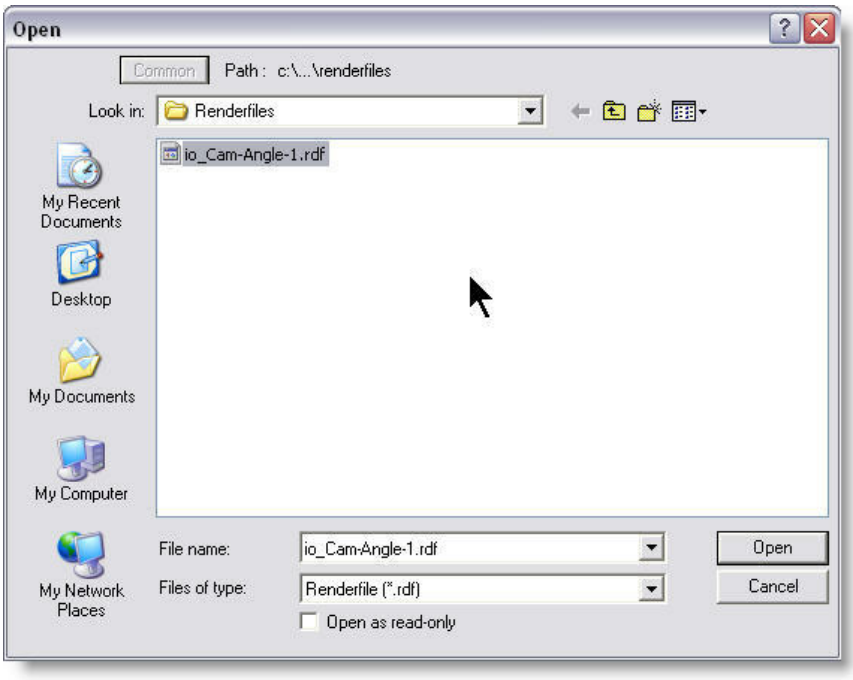


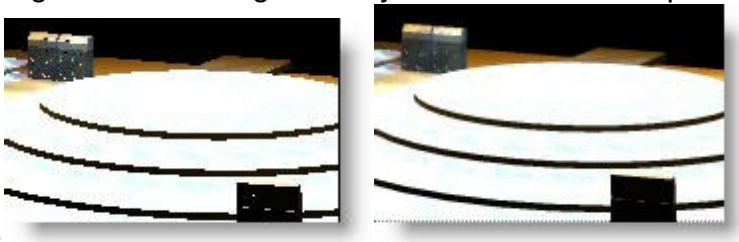
Select a render file



By default the Output name will be the same as the Renderfile
Set the resolution as desired... the larger the resolution the longer it takes...
(Example the rendering time of a 1600 X 1200 will be 4 times longer then a 800 X 600)

Enable or disable the Anti-Aliasing...
Anti-Aliasing smooth the edges of objects but also can require up to 50% time to render

Example:



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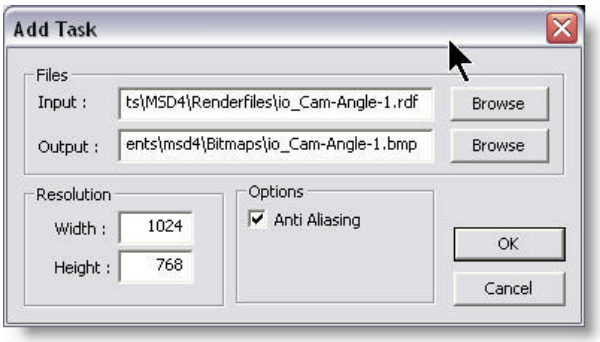
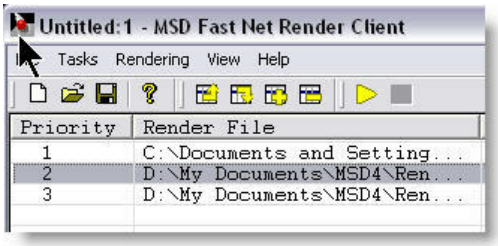
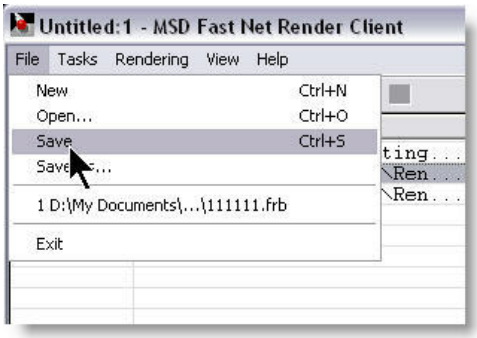


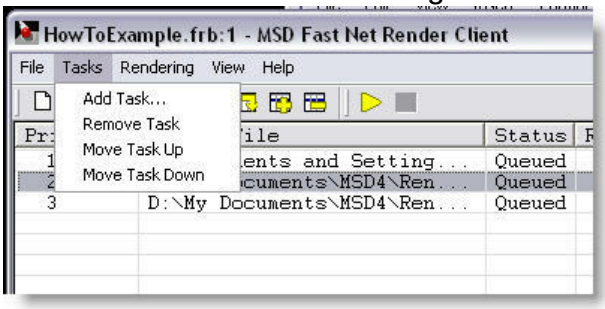
Add all the task to the list



A list of tasks can be save to be reused or completed later



Tasks can be removed or change of order using the menu or toolbar icons



When ready, simply press Start Rendering to begin the task.

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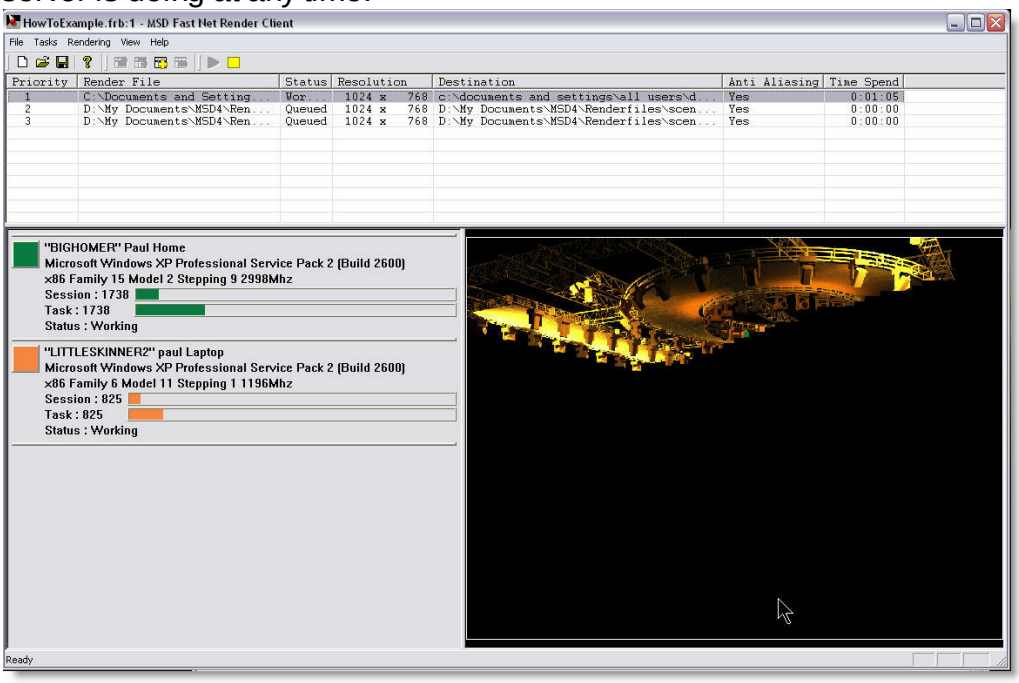
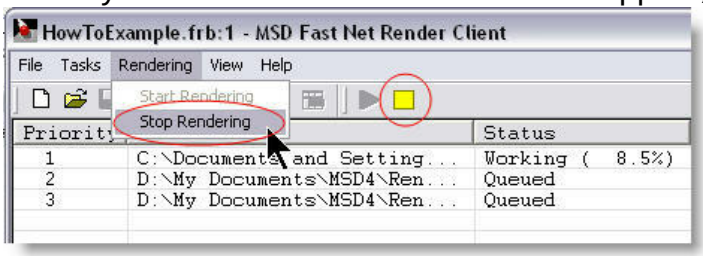
The progress and use of each server is displayed,
Small colored square representing each server show the portion of the rendering the server is doing at any time.


HowToExample.frb:1 - MSD Fast Net Render Client
File Tasks Rendering View Help
Priority Render File Status Resolution Destination Anti Aliasing Time Spend
1 C:\Documents and Setting... Wor... 1024 x 768 c:\documents and settings\all users\d... Yes 0:01:05
2 D:\My Documents\MSD4\Ren... Queued 1024 x 768 D:\My Documents\MSD4\Renderfiles\scen... Yes 0:00:00
3 D:\My Documents\MSD4\Ren... Queued 1024 x 768 D:\My Documents\MSD4\Renderfiles\scen... Yes 0:00:00
"BIGHOMER" Paul Home
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 15 Model 2 Stepping 9 2998Mhz
Session : 1738
Task : 1738
Status : Working
"LITTLESKINNER2" paul Laptop
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 6 Model 11 Stepping 1 1196Mhz
Session : 825
Task : 825
Status : Working
Ready

If for any reason a render batch should be stopped , it can be resumed at any time after.


HowToExample.frb:1 - MSD Fast Net Render Client
File Tasks Rendering View Help
Start Rendering
Stop Rendering
Priority Status
1 C:\Documents and Setting... Working (8.5%)
2 D:\My Documents\MSD4\Ren... Queued
3 D:\My Documents\MSD4\Ren... Queued

Once a task rendering is done, the bitmaps is ready for viewing. the next task will start automatically until the list is finished.

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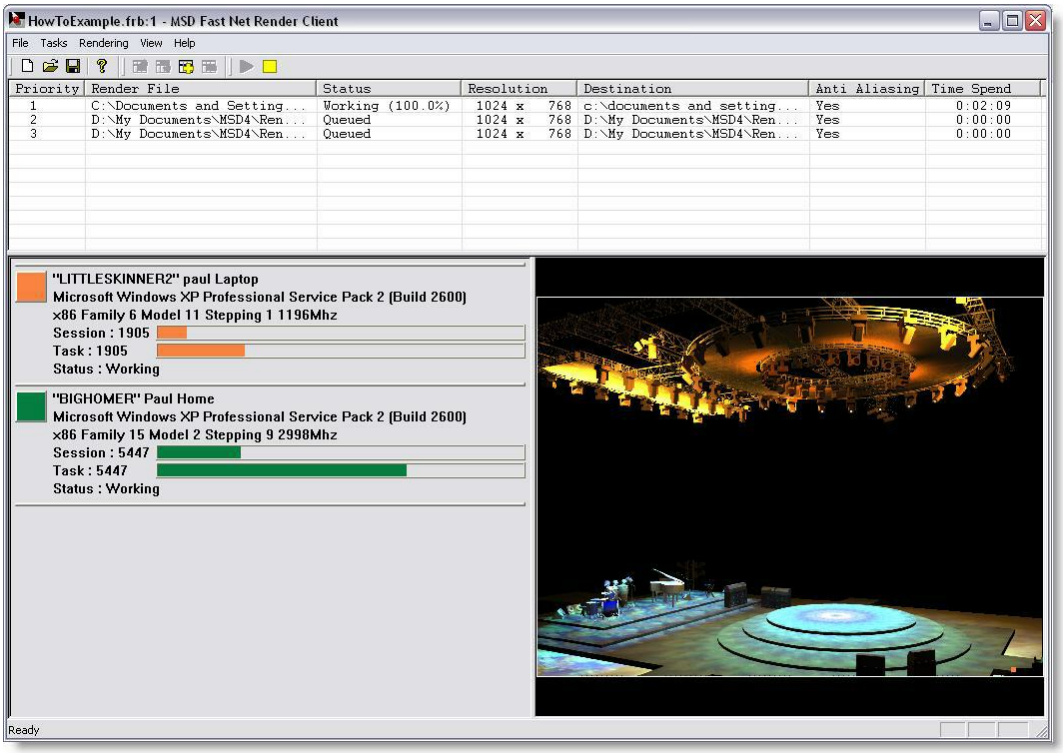
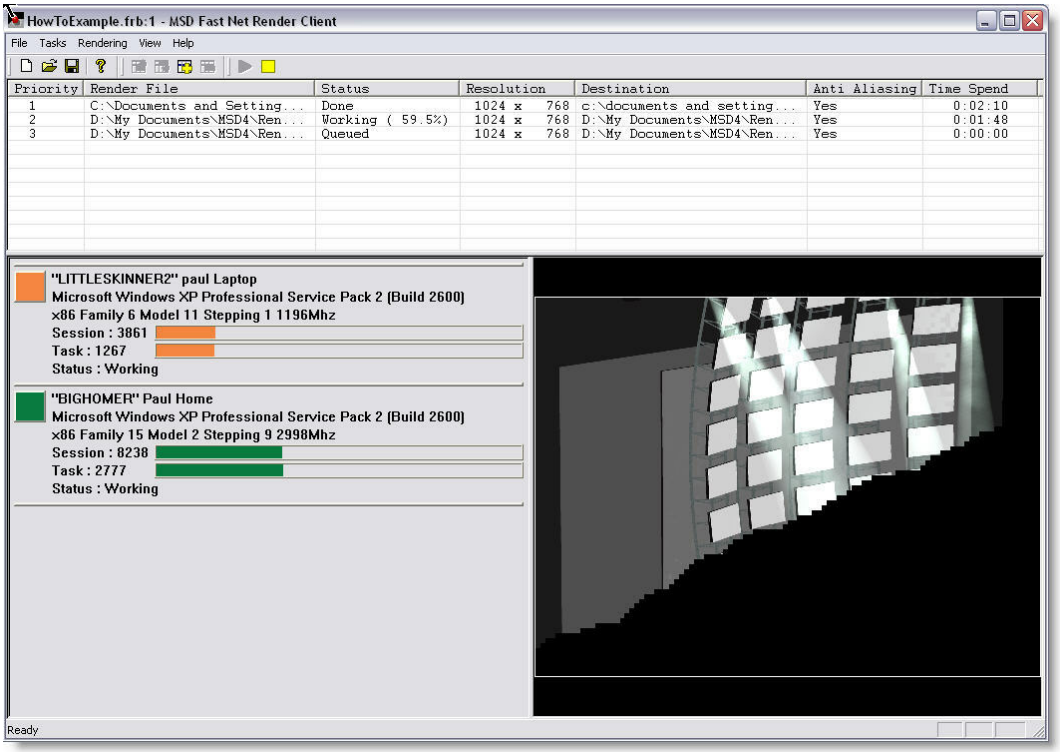

HowToExample.frb:1 - MSD Fast Net Render Client
File Tasks Rendering View Help
Priority Render File Status Resolution Destination Anti Aliasing Time Spend
1 C:\Documents and Setting... Working (100.0%) 1024 x 768 c:\documents and setting... Yes 0:02:09
2 D:\My Documents\MSD4\Ren... Queued 1024 x 768 D:\My Documents\MSD4\Ren... Yes 0:00:00
3 D:\My Documents\MSD4\Ren... Queued 1024 x 768 D:\My Documents\MSD4\Ren... Yes 0:00:00
"LITTLESKINNER2" paul Laptop
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 6 Model 11 Stepping 1 1196Mhz
Session : 1905
Task : 1905
Status : Working
"BIGHOMER" Paul Home
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 15 Model 2 Stepping 9 2998Mhz
Session : 5447
Task : 5447
Status : Working
Ready


HowToExample.frb:1 - MSD Fast Net Render Client
File Tasks Rendering View Help
Priority Render File Status Resolution Destination Anti Aliasing Time Spend
1 C:\Documents and Setting... Done 1024 x 768 c:\documents and setting... Yes 0:02:10
2 D:\My Documents\MSD4\Ren... Working (59.5%) 1024 x 768 D:\My Documents\MSD4\Ren... Yes 0:01:48
3 D:\My Documents\MSD4\Ren... Queued 1024 x 768 D:\My Documents\MSD4\Ren... Yes 0:00:00
"LITTLESKINNER2" paul Laptop
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 6 Model 11 Stepping 1 1196Mhz
Session : 3861
Task : 1267
Status : Working
"BIGHOMER" Paul Home
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
x86 Family 15 Model 2 Stepping 9 2998Mhz
Session : 8238
Task : 2777
Status : Working
Ready

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7.3 Fast Net-Render Server

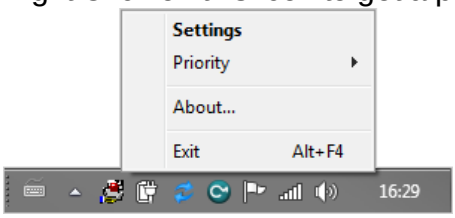
Instruction on how to install the MSD Fast Net-Render Server

You must install the Fast Net Render Server on every computer you want to use in the Render Farm.

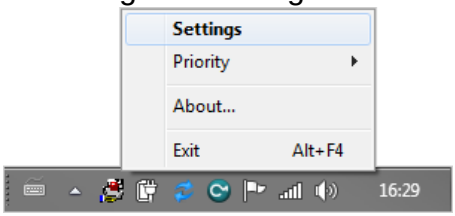
To do this, simply run the Fast Net Render Server installer.

Once the Server working, an icon will appear in the tray icon bar.

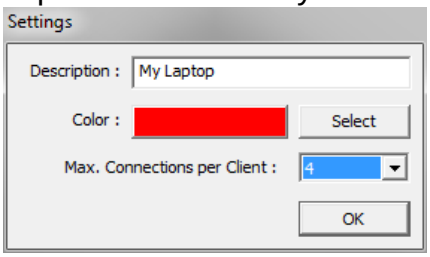
Right Click on this icon to get a popup menu



To Change the settings of the server, select 'Settings'



The Server Name and color can be changed as desired, as well as how many connections the server can make with each client. The maximum number available depends on how many cores the pc has.



It's also possible to change the Server Priority
Example if the computer where a Fast Net-Render Server is install is also use by someone else, setting the Priority to Lowest will ensure that the user will have priority over the Render server... this way the user won;t fell his computer slowing down when a

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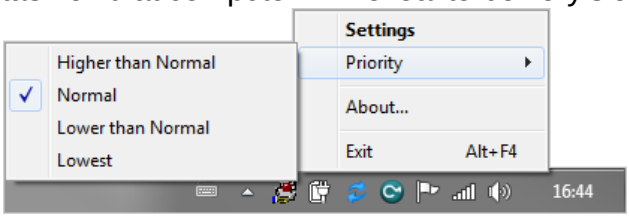
rendering is being done as more CPU time will be given to the computer user.

Setting a high priority to the server will have the opposite effect, trying to perform other task on that computer will reveal to be very slow when rendering are being done.



If you want the client computer to be use as server as well, simply install and run the server application there too.

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MSD Tools and Utilites

Part VII

8 MSD Tools and Utilites

Scene Compactor

8.1 MSD Scene Compactor

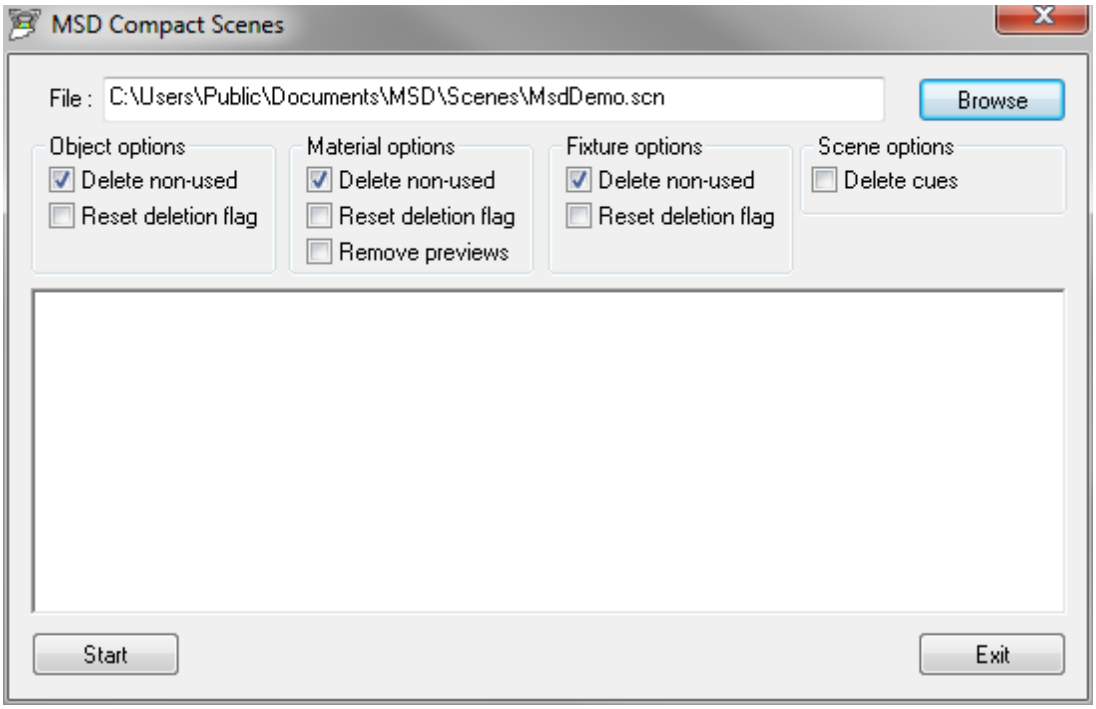
The MSD Scene Compactor is a tool used to cleanup scene from unused objects, cues, material, fixture etc.

It is important to understand that every objects or fixtures imported in a scene are imbedded in the file.
More important is the fact that when you delete an object or fixture from a scene it is still in file, it's only flagged as deleted.

So completely delete these fixture or object you must use the scene compactor.

You can also use the Scene Compactor to retrieve deleted objects or fixtures by checking the Reset Deletion flag box.

It is safe to use it, a copy of the scene will be create with the word " Compacted" added at the end of the filename
Example this file name MsdDemo.scn will be renamed **MsdDemo Compacted.scn**



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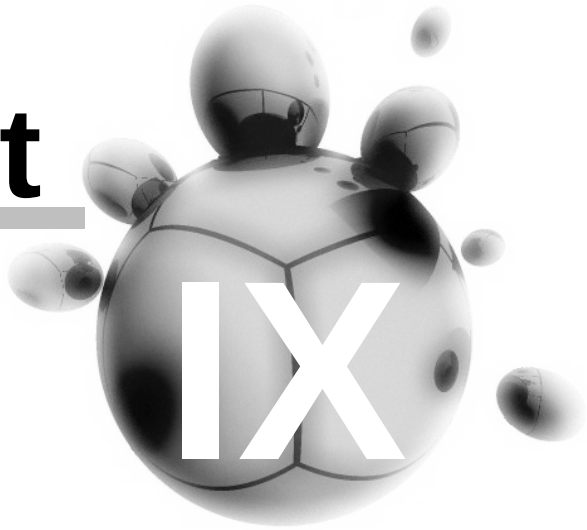
References

Part IX

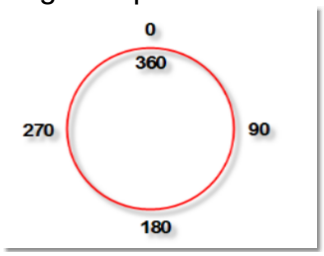


9 References

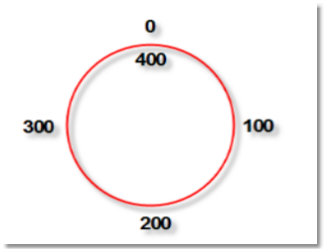
9.1 Formulas

Pi π =3.14159265358979323846

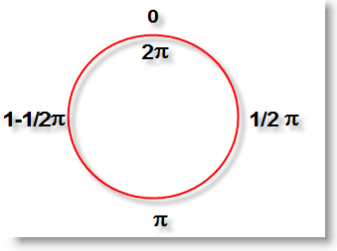
Angles representation



Degree, from 0 to 360



Gradient from 0 to 400



Radian from 0 to 2π

Pi π = 3.14159265358979323846

Gradient = TAN(degrees)

Gradient = TAN(180.radians/PI)

Degrees = ARCTAN(gradient) or
TAN-1(gradient) or

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INVTAN(gradient)

Radians= (PI/180).ARCTAN(gradient) or
(PI/180).TAN-1(gradient) or
(PI/180).INVTAN(gradient)

9.2 Links

MSD product page on Martin site

MSD Forum

Documents

Lighthouse site

Rendering gallery

Other links

LD Calculator

3D Warehouse (Sketchup 3D Models)

CGtrader (3D Models)

Turbo Squid (3D Models)

DWG converter

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Index

- 2 -

2D 38, 64, 66, 169

- 3 -

3D 38, 60, 64, 67, 169, 191
3D Visualizer 3

- A -

Absorption 119
Active 144
Address 146
Aling objects or fixtures 95
Ambient 46, 137, 177
Amplitude 128
Anti-Aliasing 46, 177
Assemble 98
Assembly 98
Auto Save 62, 193
Axis Group 96
Axys 16

- B -

Background 38, 169
Bitmap 124, 135
Bump 128

- C -

Calibration 56, 187
Camera 19, 64, 66, 67, 69
Changing Object Properties 91
Color 38, 56, 115, 119, 169, 187
color list 130
Color Selection 130
Compactor 3
Control 142
CPU 4
Create 133
Create Render file 133
Creating a fixture block 104
Creating a scene block 106
Cue 19, 138
Cuelist 138

- D -

degree 55, 186
Delay 138
Delete 69
Density 46, 177
Dimmer 146
Direct X 60, 191
DirectX Driver 45, 176
Display 43, 174
Display Mode 19
DMX 19, 142
DMX Info 3
Driver 142
Duplicate Object or Fixture 92
Duplicate Objects or fixture 71
Dynamic Objects 109, 112

- E -

Edit 19
English 61, 192
Exclusive 133

- F -

Fast Net Render 3
Fast Net-Render Client 291
Fast Net-Render Server 291, 299
Fast-Patch 146
Features 62, 193
feet 55, 186
File 17, 19
files 57, 188
Fixture 73, 75, 151
Fixture Block 103
Fixture Group 98
Fixture List 71, 72
Fluid 128
Focus 67
Follow 138, 142

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foot 55, 186
Formulas 304
Francais 61, 192
Full View 64

- G -

Gamma 45, 56, 176, 187
Gobo Editor 3
Gold 2
gradient 55, 186
grams 55, 186
Grid 62, 148, 193
Grid (2D Views) 62, 193
Grid Visible 66
Group 96
Grouping 96

- H -

harddisk 57, 188
harddrive 57, 188
Hardware 4
HASP 4
Help 19
Highlight Size 119
Hoist 109, 112
Hoist Platform 109, 112
Hold 133
Hotkey 7, 13
Hotkeys 7, 13
How to use Dynamic Object in a Scene 112

- I -

Icon 7, 37
Icons 7
ID 146
IES to SPT 3
Iincrement 146
illuminance 137
Illuminance Map 285
Illumination 122
Import 72, 73, 151
Importing Fixture 71
Importing Fixture in a Scene 73
Importing Objects in a Scene 86
In 138
inch 55, 186
Insert 75
Inserting a fixture block in a scene 105
Inserting a scene block in a scene 108
Inserting Fixture 71
Inserting Object in a Scene 88
Inspect 64
Intersect Grouping 102
Intersection 102

- J -

JPEG 135
JPG 135

- K -

Keep Active 62, 193
Keyboard 13

- L -

Language 45, 61, 176, 192
Layer 144
Layout 37
Line 148
Link 138
Links 305
Load 151
Look Through Fixture 83
lux 137
Lux Meter 137

- M -

magnetic 53, 184
Manipulate 76
Mask 124
Material Base 119
Material Bump 128
Material Special 122
Material Texture 124
Materials and Textures 115
Memory 4
Menu 19, 37
Meter 137

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meters 55, 186
millimeter 55, 186
Mirror 124
Mirroring 124
MMX 60, 191
Mode 43, 174
Modeler 3
Module 3
Monitor 56, 187
Motor 109, 112
Motor Map 142
Move 16
Move From/To 64
Multi-Fixture 98

- N -

Network 291, 299
Normal Illumination 122
Normall 122

- O -

Object List 84, 200
Object Snap 45, 176
Objects 144
Offset 124, 146
Open 17
Operation 19
Operation Mode: 62, 193
Operation Toggle 62, 193
Option 62, 193
Options 45, 176
Out 138

- P -

Paper 3
Paperwork 3
Patch 146
Path 57, 188
Paths 45, 176
Position 67
pound 55, 186
Print 148
Properties 69

- R -

Radial 55, 186
Radian 55, 186
RAM 4
Realistic 133
Rednering 43, 174
Redo 64
Reflection 119
Refraction 119
Render 43, 133, 174, 291
Render Settings 45, 176
Rendering 46, 131, 177, 291
Rendering Creation 133
Replace Fixture 81
Replacing fixture 71
Requirement 4
Resume 133
Ripple 128
Rotate 16
Rotation 124
Rotator 109, 112

- S -

Save 69
Saving a Rendering 135
Scale 16, 66, 124
Scaler 109, 112
Scene 75
Scene Block 106
Scroller 146
Select 76
Select and Manipulate fixture 71
Select and manipulate object 89
Self 122
Self Illumination 122
Settings 19, 44
Shadow 46, 177
Shortcut 7, 13
Silver 2
Size 124
Smoke 43, 46, 174, 177
Snap 53, 184
Snapshot 142
Solid 38, 43, 169, 174

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Start 133
Step 138
Subtract 101
Subtractive Grouping 101
Switch 17
Swivel 64

- T -

Time 138
Toolbar 37
Trace 46, 177
Track 109, 112
Transparency 119

- U -

undo 64
Unit 55, 186
Units 45, 176
User Color 130

- V -

Version 2
Video Card 60, 191
Video Issue 60, 191
View 19
Visible 144

- W -

Water 128
Wave 128
What is Fast Net-Render 291
What is MSD Fast Net-Render 291
White Level 46, 177
Window 19, 37, 38, 169
Wireframe 38, 43, 169, 174

- X -

X 16

- Y -

Y 16

- Z -

Z 16
Zoom 64

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Back Cover